DOCUMENT RESUME

ED 267 844 JC 860 142

AUTHOR Cohen, Edward G.
TITLE Academic Profile and Performance of Fall 1983 Freshmen: An On-Going Longitudinal Study.
INSTITUTION Queensborough Community Coll., Bayside, NY. Office of Testing and Institutional Research.
PUB DATE 84
NOTE 74p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Academic Achievement; Academic Persistence; Basic Skills; *College Freshmen; Dropouts; *Educational Trends; *Grade Point Average; Longitudinal Studies; Predictor Variables; *Student Characteristics; *Two Year College Students

ABSTRACT

During fall 1983, a study was conducted of the 3,250 first-time freshmen registered at Queensborough Community College (QCC). An academic profile of these students was developed, focusing on demographic background, high school academic profile, results on the QCC placement tests and City University of New York Freshman Skills Assessment Tests, academic performance at QCC, and the relationship between high school academic variables and academic performance at QCC. Study highlights included the following: (1) 52.7% of the freshmen class were females, 25% did not hold United States citizenship, and approximately 66% came to QCC directly from high school; (2) the mean overall high school average at the conclusion of the 11th year was 71.3 and the mean overall number of units earned was 9.8; (3) placement and assessment test results showed 70% of the students requiring remediation in reading, 56% in writing, and 82% in mathematics; (4) out of 3,250 freshmen, 2,676 (82.3%) enrolled for a second term; (5) the percentages of students not completing any credits dropped from 22.6% after the first semester to 6.9% after the second; and (6) regression analyses indicated that neither the number of units earned in high school nor overall high school averages were strongly related to academic performance at QCC as defined by credits completed or grade point index. (EJV)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ACADEMIC PROFILE AND PERFORMANCE OF FALL 1983 FRESHMEN: AN ON-GOING LONGITUDINAL STUDY

ED267844

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

E. G. COHEN

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

IC 860 142

OFFICE OF INSTITUTIONAL RESEARCH
QUEENSBOROUGH COMMUNITY COLLEGE
THE CITY UNIVERSITY OF NEW YORK
BAYSIDE, NEW YORK 11364

1984

Prepared by

Edward G. Cohen, Ph.D.
Director

OFFICE OF INSTITUTIONAL RESEARCH

QUEENSBOROUGH COMMUNITY COLLEGE
THE CITY UNIVERSITY OF NEW YORK
BAYSIDE, NEW YORK 11364

Table of Contents

List of Tables..... iv

List of Figures..... v

Summary..... vii

Introduction..... 1

Demographic Background..... 2

Data on High School Variables..... 6

College Admit Averages (CAA)..... 11

High School Averages and Units by Subject Area..... 13

Placement Test Results..... 17

CUNY Freshman Skills Assessment Tests..... 18

All Credits Satisfactorily Completed..... 19

Credits Satisfactorily Completed Toward a Degree..... 21

Grade Point Index (GPI) For ALL Courses and Toward a Degree..... 23

Correlations Among Variables..... 27

The Relationship Between High School Academic Variables and Academic Performance at QCC Using Regression Analyses..... 30

Conclusion and Discussion..... 35

References..... 38

Appendix: Figures 2A Through 21.....A2 to 21

LIST OF TABLES

TABLE:

Pages

1. Demographic Variables of Fall 1983 Cohort of First-Time Freshmen..... 3
2. Curricular Breakdown of Fall 1983 Freshmen: Degree and Certificate Programs..... 5
3. Queens High Schools Using Valid Procedures In Computing Academic Averages and Units For Fall 1983 As Cited By UAPC. 8
4. Academic Variables Considered In This Study.....10
5. Comparison of College Admit High School Averages (CAA) by Category for all Feeder High Schools and Selected Group of Feeder High Schools For Fall 1983 Cohort.....12
6. Summary Data of High School Averages and Units for a Selected Group of Feeder High Schools By Academic Area of Study for Fall 1983 Freshmen (N=801).....14
7. High School Academic Science Courses Taken by Fall 1983 Freshmen.....15
8. High School Academic Mathematics Courses Taken by Fall 1983 Freshmen.....16
9. QCC Placment Test Results of Fall 1983 First-Time Freshmen.17
10. CUNY Freshman Skills Assessment Tests in Reading, Writing and Mathematics for Fall 1983 Freshmen.....18
11. Credits Satisfactorily Completed by Fall 1983 Freshmen After One and Two Semesters At QCC.....20
12. Credits Satisfactorily Completed By Fall 1983 Freshmen Toward a Degree After One and Two Semesters At QCC.....22
13. Grade Point Index of Fall 1983 Freshman for All Credit Courses After One and Two Semesters at QCC.....24
14. Grade Point Index of Fall 1983 Freshmen For Courses Satisfactorily Completed Toward A Degree After One and Two Semesters at QCC.....26
15. Pearson Product-Moment Correlations Between High School and QCC Academic Variables After Two Semesters of Attendance at QCC.....28
16. Ten Highest Correlation Coefficients Between High School and QCC Academic Variables.....29

LIST OF FIGURES

Figures — Pages

1. Feeder High Schools of Fall 1983 Freshmen Presenting Valid Data on Units and Averages 9

2A: High School Averages of Fall 1983 Freshmen for All High Schools A2-A

2B: High School Averages of Fall 1983 Freshmen for Selected High Schools A2-B

3: Frequency of Total Units Earned By Fall 1983 Freshmen From Selected High Schools A-3

4: Frequency of English Earned By Fall 1983 Freshmen From Selected High Schools A-4

5: Frequency of English Averages of Fall 1983 Freshmen at Selected High Schools A-5

6: Frequency of Foreign Language Units Earned By Fall 1983 Freshmen in Selected High Schools A-6

7: Frequency of Foreign Language Averages of Fall 1983 Freshmen at Selected High Schools A-7

8: Frequency of Mathematics Units Earned By Fall 1983 Freshmen in Selected High Schools A-8

9: Frequency of Mathematics Averages of Fall 1983 Freshmen at Selected High Schools A-9

10: Frequency of Science Units Earned by Fall 1983 Freshmen in Selected High Schools A-10

11: Frequency of Science Averages of Fall 1983 Freshmen at Selected High Schools A-11

12: Frequency of Social Science Units Earned By Fall 1983 Freshmen in Selected High Schools A-12

13: Frequency of Social Science Averages of Fall 1983 Freshmen at Selected High Schools A-13

14: Credits Satisfactorily Completed by Fall 1983 Freshmen After One Semester at QCC A-14

List of Figures Continued:

Figures

Pages

15: Credits Satisfactorily Completed By Fall 1983 Freshmen After Two Semesters at QCC (Peristers Only)..... A-15

16: Credits Satisfactorily Completed Toward a Degree After One Semester at QCC..... A-16

17: Credits Satisfactorily Completed Toward A Degree After Two Semesters (Persisters Only)..... A-17

18: Grade Point Index (GPI) For All Credits Courses After One Semester..... A-18

19: Grade Point Index (GPI) For All Credit Courses After Two Semesters (Persisters Only)..... A-19

20: Grade Point Index (GPI) For Courses Satisfactorily Completed Toward a Degree After One Semester..... A-20

21: Grade Point Index (GPI) For Courses Satisfactorily Completed Toward a Degree After Two Semesters (Persisters Only)..... A-21

SUMMARY

ACADEMIC PROFILE AND PERFORMANCE OF FALL 1983 FRESHMEN: AN ON-GOING LONGITUDINAL STUDY

OFFICE OF INSTITUTIONAL RESEARCH
QUEENSBOROUGH COMMUNITY COLLEGE
THE CITY UNIVERSITY OF NEW YORK
BAYSIDE, NEW YORK 11364

1984

OFFICE OF INSTITUTIONAL RESEARCH

QUEENSBOROUGH COMMUNITY COLLEGE
CITY UNIVERSITY OF NEW YORK

SUMMARY

ACADEMIC PROFILE AND PERFORMANCE OF FALL 1983 FRESHMEN: AN ON-GOING LONGITUDINAL STUDY

During the Fall 1983 semester, 3250 first-time freshmen registered at Queensborough Community College (QCC). The major objective of this report was to present an academic profile of these students, past and current, and establish base-line data for comparative purposes on their academic performance while in high school and at QCC. This report comprises five principal parts:

1. Demographic Background
2. High School Academic Profile
3. Results on the QCC Placement Tests and CUNY Freshman Skills Assessment Tests
4. Academic Performance at QCC
5. The Relationship Between High School Academic Variables and Academic Performance at QCC

A summary of each of the above sections now follows:

Summary Continued:

1. DEMOGRAPHIC BACKGROUND:

- More than one-half of the freshman class were females (52.7 percent)
- Ninety-five percent were residents of N.Y.C.
- Twenty-five percent of the freshman class did not hold U.S. citizenship and were primarily from the Caribbean and South America
- The median age was 18.5 with a mean average of 20.5. The largest group was in the 17-19.9 age category (76.6 percent) About 7 percent were 30 or older.
- About 5 percent were graduates of foreign high schools
- Approximately two-thirds of the Fall 1983 freshman class came to QCC directly from high school (June 1983 graduates)

2. HIGH SCHOOL ACADEMIC PROFILE:

- The mean overall high school average at the conclusion of the 11th year was 71.3 with the following subject area mean averages:

English	71.2
Foreign Languages	73.2
Mathematics	69.5
Science	70.7
Social Science	72.0

- The mean overall number of units earned in high school at the conclusion of the 11th year was 9.8 with the following mean average number of units by subject area:

English	2.6
Foreign Languages	2.2
Mathematics	1.6
Science	1.8
Social Science	2.1

- About one-fourth completed only 9th year mathematics. More than one-fourth completed only 1st year science while about three-tenths completed Biology. Almost one-half of the freshman class did not earn academic units in mathematics while nearly 30 percent did not earn academic units in science.

Summary Continued:

3. RESULTS ON THE QCC PLACEMENT TESTS AND THE CUNY FRESHMAN SKILLS ASSESSMENT TESTS:

- On the QCC placement test, about 70 percent required remediation in reading, 56 percent in writing and 82 percent in mathematics.

- On the CUNY Freshman Skills Assessment Tests about one-third failed reading, more than half failed writing and more than 60 percent failed mathematics.

4. ACADEMIC PERFORMANCE AT QCC:

Out of 3250 Fall 1983 freshmen, 2676 persisters (82.3 percent) enrolled for a second semester. Performance data at the conclusion of the second semester pertains only to the 2676 persisters:

- After one semester a median of 5 credits was satisfactorily completed (N=3250) and after two semesters the median rose to 12 (N=2676). The percentages of students who did not satisfactorily complete any credits dropped from 22.6 percent after the first semester to 6.9 percent after the second.

- The median Grade Point Index (GPI) remained approximately the same at the conclusion of the first and second semesters (2.04 and 2.01 respectively). The percentages of students with a GPI of zero dropped from 22.6 percent after the first semester to 6.9 percent after the second.

Summary Continued:

5. THE RELATIONSHIP BETWEEN HIGH SCHOOL ACADEMIC VARIABLES AND ACADEMIC PERFORMANCE AT QCC:

- It was apparent from regression analyses that neither the total number of units earned in high school nor overall high school averages (CAA) were strongly related to academic performance at QCC as defined by credits completed or grade point index (GPI). Of the two high school variables considered in the regression analysis, the number of total units accounted for most of the variance. At most approximately 20 percent of the variance of credits and GPI was explained by high school performance.

  In an analysis by subject area performance on the CUNY tests, the number of high school mathematics and science units explained more than one-third of the variance on the CUNY mathematics test. As we would expect, the more mathematics courses taken in high schools, the better the performance of this sample on the CUNY mathematics test. On the CUNY Reading test, the number of high school Science, English and Mathematics units contributed almost 15 percent of the variance, while on the CUNY writing test, the number of English, Foreign Language and Mathematics units accounted for 12 percent of the variance.

  In explanation, it may very well be that two semesters is too short a period for academic high school variables to predict performance at QCC given that non-credit remedial courses in reading, writing and mathematics are usually taken in the early semesters. Credits and GPI will be further monitored for Fall 1983 freshmen to determine whether these findings are consistent in subsequent semesters.

  Another explanation of the lack of a strong linear relationship between performance in high school and college, may be the weakness of the academic data supplied by UAPC to QCC. Until a uniform set of guidelines is used by all high schools for assigning units and calculating academic averages and accompanied by procedures to assure that these guidelines are followed, the validity of these UAPC data remains questionable.

  It could also be that the absence of twelfth grade data on units and averages for June 1983 graduates may have attenuated the results of this study.

  It should also be considered that intervening variables at QCC such as remediation, counseling, changes in motivation and maturity may have overcome previous secondary academic performance.

OFFICE OF INSTITUTIONAL RESEARCH

QUEENSBOROUGH COMMUNITY COLLEGE
CITY UNIVERSITY OF NEW YORK

ACADEMIC PROFILE AND PERFORMANCE OF FALL 1983 FRESHMEN: AN ON-GOING LONGITUDINAL STUDY

During the Fall 1983 semester, 3250 first-time freshmen registered at Queensborough Community College (QCC). The major objective of this report was to present an academic profile of these students, past and current, and establish base-line data for comparative purposes on their academic performance while in high school and at QCC. This report comprises five principal parts:

1. Demographic Background
2. High School Academic Profile
3. Results on the QCC Placement Tests and CUNY Freshman Skills Assessment Tests
4. Academic Performance at QCC
5. The Relationship Between High School Academic Variables and Academic Performance at QCC

Data are presented first for the Fall 1983 Freshmen class population as a whole. This report will then analyze academic data after the first semester at QCC (Fall 1983) and then after the second semester (Spring 1984). Future reports will monitor academic performance of the Fall 1983 cohort at the conclusion of each subsequent semester, to establish further base-line data on longitudinal academic progress for comparative purposes.

DEMOGRAPHIC BACKGROUND:

The subjects in this study consist of first-time freshmen who entered QCC via the University Application Processing Center (UAPC). Transfer students and students who applied to QCC directly (Direct Admits) were not part of this study.

Table 1 which presents demographic data on the Fall 1983 cohort, indicates that male and female students were almost equally represented and had a median age of approximately 18.5 and a mean average of 20.5.

Most freshmen were permanent residents of New York City (95.5 percent) with three-quarters (75 percent) holding U.S. citizenship. The largest groups of non-citizen freshmen in order of magnitude, were citizens of Jamaica, Haiti and Columbia. Other countries cited in Table 1 accounted for one percent or less of the Fall 1983 cohort.

TABLE 1

DEMOGRAPHIC VARIABLES OF FALL 1983 COHORT OF FIRST-TIME FRESHMEN

	N	%
SEX		
Male	1538	47.3
Female	1712	52.7
TOTAL:	3250	100.0%
RESIDENCE:		
N.Y.C.	3105	95.5
Out of N.Y.C. and in N.Y.S.	143	4.4
Out of N.Y.S.	2	<1.0
TOTAL:	3250	100.0%
CITIZENSHIP:		
U.S.	2437	75.0
Jamaica	95	2.9
Haiti	82	2.5
Columbia	73	2.2
Equador	43	1.3
Dominican Republic	37	1.1
India	36	1.1
Subtotal:	2803	86.2
Other Countries: a)	447	13.8
TOTAL:	3250	100.0%
AGE IN YEARS:		
Through 17.9	666	20.7
18.0-18.9	1373	42.7
19.0-19.9	424	13.2
20.0-20.9	165	5.1
21.0-21.9	91	2.8
22.0-29.9	307	9.6
30.0-39.9	128	4.0
40.0-49.9	43	1.3
50 and older	15	<1.0
Unknown	38	<1.0
TOTAL:	3250	100.0%
Mean Age 20.5		
SD 5.238		
Median 18.53		
Kurtosis 17.53		
Skewness 3.76		
Minimum Age 16.3		
Maximum Age 68.9		
TYPE OF ADMISSION:		
First-time Freshmen: U.S.	3079	94.7
Foreign First-time Freshmen b)	171	5.3
TOTAL:	3250	100.0%

a) Less than 1 percent per country.
b) Students received a high school diploma from a foreign high school.

Table 2 presents a curricular breakdown of the Fall 1983 entering class. The most popular curricula, Liberal Arts (20.1 percent) Data Processing (10.1 percent), Pre-Nursing (9.1 percent), Computer Technology (8.6 percent), Business Transfer (7.9 percent) and Business Accounting (6.8 percent) accounted for approximately five-eighths (62.6 percent) of the freshman class.

Students who wish to enroll in the AAS Nursing degree program must first complete a Pre-Nursing sequence of 13 credits with a minimum Grade Point Index, (GPI) of 2.5 before they may enter the AAS degree program. As shown in Table 2 the Pre-Nursing curricular sequence is the second largest (9.1 percent).

TABLE 2

CURRICULAR BREAKDOWN OF FALL 1983 FRESHMEN:
DEGREE AND CERTIFICATE PROGRAMS

OCC CODE	CURRICULUM	Type of Program[a,b,c]	N	Percent
AP	Photography	Certificate	19	<1.0
BA	Business: Accounting	Career	222	6.8
BD	Data Processing	Certificate	27	<1.0
BL	Business: Insurance	Career	15	<1.0
BM	Business: Management	Career	172	5.3
BN	Business: Real Estate	Career	5	<1.0
BS	Business: Secretarial	Career	176	5.4
BT	Business: Administration	Transfer	257	7.9
BW	Business: Word Processing	Career	64	2.0
CT	Computer Technology	Career	281	8.6
DD	Design Drafting	Career	46	1.4
DP	Data Processing	Career	327	10.1
EH	Environmental Health	Transfer	5	<1.0
ET	Electrical Technology	Career	157	4.8
FA	Fine Arts	Transfer	53	1.6
LA	Liberal Arts	Transfer	653	20.1
LS	Liberal Sciences	Transfer	132	4.1
ME	Music Electronic Technology	Career	5	<1.0
ML	Medical Laboratory Technology	Career	84	2.6
MO	Medical Office Asst.	Certificate	29	<1.0
MT	Mechanical Technology	Career	53	1.6
NP	Pre-Nursing		296	9.1
NS	Nursing	Career	22	<1.0
PE	Pre-Engineering	Transfer	104	3.2
PN	Nuclear Technology	Career	15	<1.0
NM	Non-degree or Unknown		31	<1.0
TOTAL			3250	100.0%

a) Certificate programs were designed to develop professional marketable skills in a specific area within a minimal period of time. Students attending full-time can usually complete these programs within a year to a year-and-a-half. Certificate programs do <u>not</u> culminate in a degree.

b) Transfer curricula are designed for students who plan to continue their studies after graduation from QCC at a four-year college or at a professional school.

c) Career curricula are two-year offerings which prepare students to enter a job immediately after graduation.

DATA ON HIGH SCHOOL ACADEMIC VARIABLES:

High school preparation of the Fall 1983 class was in part, analyzed by the number of Carnegie academic units earned, and by academic course averages. To be awarded a Carnegie academic high school unit, representing one year of study for selected academic courses, basic criteria established by the New York State Education Department and the New York City Board of Education must be met. Academic units may be earned in English, Mathematics, Science, Social Science, Foreign Languages, Physical Education, Music and Art. 'College Admit Averages', the overall average CUNY Colleges require for their data base, are calculated only for these approved academic courses.

According to the University Application Processing Center (UAPC) which collects and disseminates high school data on all applying freshmen, many high schools do not follow uniform data collection procedures and as a whole, do not provide meaningful data on academic averages and units earned. Ten high schools out of a total of 24 in Queens were cited by UAPC as having valid data on units and averages using the 'HITRAN' System (See Table 3). The present study analyzes unit and average data only from these ten schools. The sample from these schools (N=696) represents 21.4 percent of the entire class of Fall '83 freshmen (N=3250).

Approximately two-thirds of the Fall 1983 entering class came to QCC directly from high school (June 1983 graduates). In the remaining one-third, most graduated from high school in the three-year period prior to June 1983.

Queensborough Community College, as a unit of the City University of New York admits students in accordance with the open admissions policy established by the University's Board of Trustees. Under this policy, any applicant who holds a high school diploma, or the equivalent, and is a bona-fide resident of New York City or State is eligible for admission to an undergraduate degree program in the University. At QCC there are no minimum academic entrance criteria relating to 'College Admit Averages' or the number of academic units earned to gain admittance.

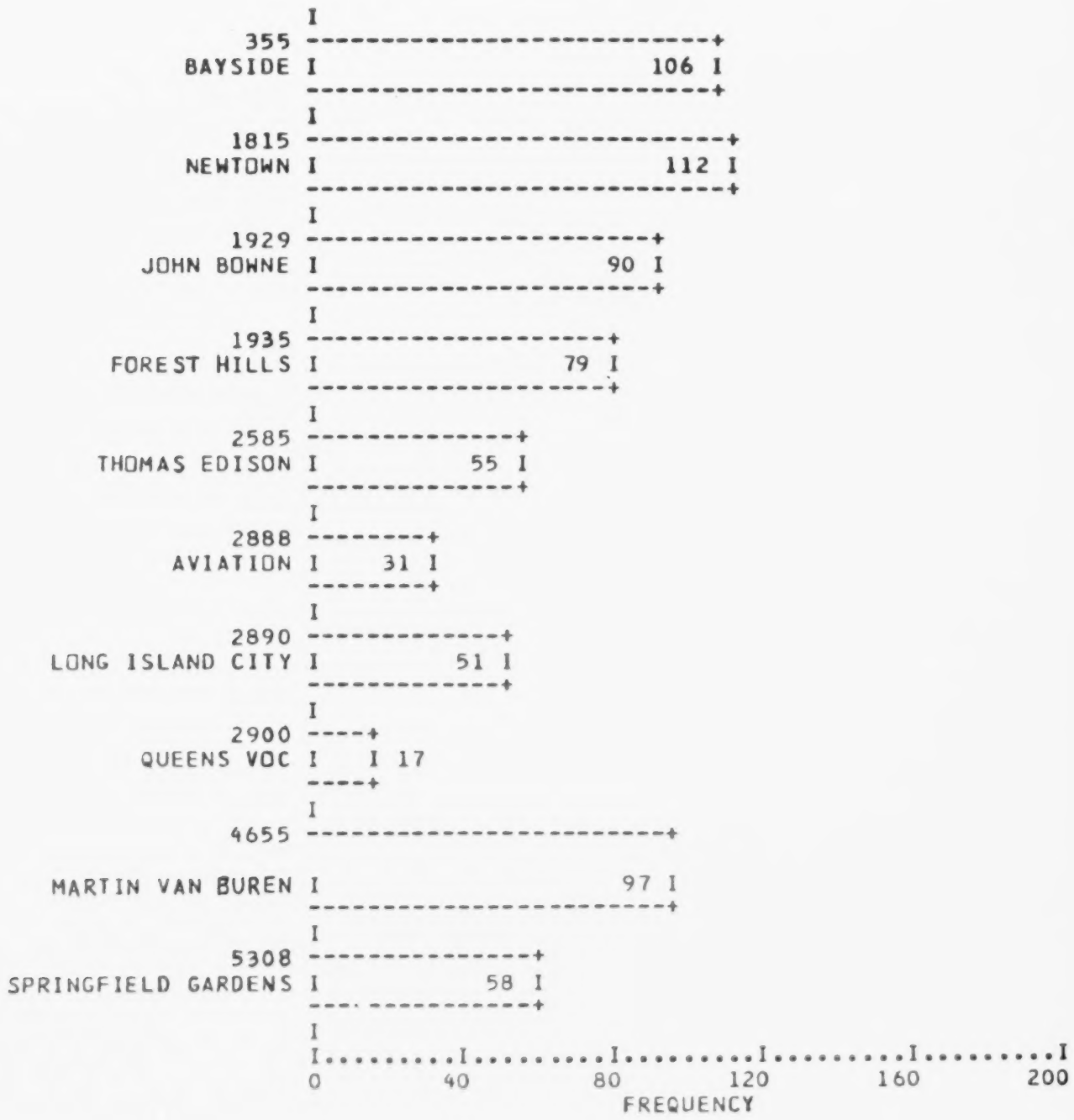
TABLE 3

Queens High Schools Using Valid Procedures In Computing Academic Averages And Units For Fall 1983 As Cited By UAPC[a]

HIGH SCHOOL	N	PERCENT
1. Aviation	31	4.5
2. Bayside	106	15.2
3. Forest Hills	79	11.4
4. John Bowne	90	12.9
5. Martin Van Buren	97	13.9
6. Newtown	112	16.1
7. Long Island City	51	7.3
8. Queens Vocational	17	2.4
9. Springfield Gardens	58	8.3
10. Thomas Edison	55	7.9
TOTAL:	696	100.0

a) As of Fall 1984, UAPC reported that guidelines are in preparation to further standardize high school reporting procedures on academic units and averages.

Figure 1: Feeder High Schools of Fall 1983 Freshmen Presenting Valid Data on Units and Averages



The academic variables considered in this study are shown in Table 4.

TABLE 4

Academic Variables Considered In This Study

HIGH SCHOOL ACADEMIC VARIABLES:

1. High School 'College Admit Average' of Academic Subjects (CAA)[a]
2. Number of English Units
3. English Average
4. Number of Foreign Language Units
5. Foreign Language Average
6. Number of Mathematics Units
7. Mathematics Average
8. Number of Science Units
9. Science Average
10. Number of Social Science Units
11. Social Science Average
12. Total Number of Units[b]

QCC ACADEMIC VARIABLES:

1. Grade Point Index (GPI) for all credits
2. GPI for credits satisfactorily completed toward a degree
3. Credits satisfactorily completed for all courses
4. Credits satisfactorily completed toward a degree
5. CUNY Freshman Skills Reading Test
6. CUNY Freshman Skills Mathematics Test
7. CUNY Freshman Skills Writing Test

a) Includes averages for only selected academic courses

b) Includes units earned in Music and Fine Arts in addition to English, Math, Foreign Language, Science and Social Science courses.

COLLEGE ADMIT AVERAGES (CAA):

Table 5 compares College Admit Averages (CAA) of the entire UAPC freshman class with CAA^S from selected high schools known to use valid procedures (HITRAN) for calculating these averages. The major difference between groups was in the '45 to 69.9' high school average category where the selected high schools were approximately ten points higher than all feeder high schools.

Summary descriptive statistics shown in Table 5 for both groups appear to be equivalent.

TABLE 5

Comparison of College Admit High School Averages (CAA) by Category for all Feeder High Schools and Selected Group of Feeder High Schools for Fall 1983 Cohort

CAA HIGH SCHOOL AVERAGE CATEGORY[c][a]	ALL FEEDER HIGH SCHOOLS N	%	SELECTED GROUP[b] OF FEEDER N	%
80% and above	256	7.9	35	5.0
75-79.9	562	17.3	94	13.5
70-74.9	1722	53.0	343	49.3
45-69.9	665	20.5	213	30.6
Unknown or Indeterminate	45	1.3	11	1.6
TOTAL	3250	100.0%	696	100.0%
Summary Descriptive Data:				
Mean Average ($\bar{X}$)	72.4		71.3	
Standard Deviation (SD)	5.217		5.365	
Median	70.8		70.5	
Skewness	0.709		1.691	
Kurtosis	1.729		0.286	
N	3160		696	

a) Data below 45 are codes which do not represent high school averages.

b) Ten high schools reported to be using valid procedures in collecting data on averages and units.

c) Averages were calculated at the conclusion of the eleventh year for 1983 high school graduates. Prior graduates with twelfth year data are not included.

See figures 2A and 2B in Appendix A showing histograms of high school averages of entering freshmen from all high schools and from a selected group.

HIGH SCHOOL AVERAGES AND UNITS BY SUBJECT AREA:

Table 6 presents summary data by academic area on high school averages and units for only those students who attended selected high schools which used uniform data-reporting procedures. It is important to note that all units and averages cited in this study were calculated at the conclusion of the eleventh year for only June 1983 high school graduates. Averages and units for prior graduates were not included. It is apparent, that on the average, students earned fewer units in mathematics ($\bar{X}$=1.6 units) than in other academic areas. The highest number of units according to this breakdown, were earned in English. Overall, students on the average earned only 9.796 units out of an expected 12 at the conclusion of the eleventh year.

See figure 3 in Appendix A for a histogram of total units earned by Fall 1983 freshmen attending a selected group of high schools.

Table 6 also shows that on the low end of the spectrum, students performed worse in mathematics ($\bar{X}$=69.5) than any other subject area, and did best in Foreign Languages ($\bar{X}$ = 73.2) followed by Social Science ($\bar{X}$ = 72.0) and English ($\bar{X}$ = 71.3).

TABLE 6

Summary Data of High School Averages[c] and Units[d] From Selected High Schools[b] For Fall 1983 Freshmen

Academic Area[e]	N	$\bar{X}$	SD	Median
English Averages	462	71.264	6.702	71.0
English Units	462	2.582	0.649	3.0
Foreign Language Averages	346	73.225	8.682	73.0
Foreign Language Units	346	2.197	0.937	2.0
Mathematics Averages	280	69.461	7.532	68.0
Mathematics Units	280	1.589	0.708	1.0
Science Averages[f]	469	70.650	6.659	70.0
Science Units	469	1.838	0.673	2.0
Social Science Averages	464	71.961	6.923	71.0
Social Science Units	464	2.126	0.700	2.0
Total Averages (CAA)[a]	575	71.31	5.644	70.9
Total Units Earned[d]	575	9.796	3.028	10.0

a) Includes Fine Arts, Physical Education and Music. CAA=College Admit Average.
b) Selected high schools reported to be using valid units and averages.
c) Averages analyzed were 45 or greater. Data below 45 were not included because they represent coded information.
d) Units analyzed do not include students who earned zero units.
e) Averages and units were calculated at the end of the 11th year for June 1983 high school graduates. Prior graduates not included.
f) The number of science units may be inflated by students who took more than one first-year science course. For example, 4 units of science could be earned with 3 first-year science courses plus Biology.

An analysis of the number of units completed and averages earned in each academic area are in Appendix A (Figures 4 through 13).

All subsequent tables presented in this study represent analyses of the entire Fall 1983 cohort except where otherwise stated.

Table 7 presents discrete data on the science courses taken by Fall 1983 freshmen. Biology was the most popular, attracting almost three-tenths of the cohort. A course in General, Environmental, or Physical Science was the next most popular, (27.3 percent) followed by a course in Chemistry (10.8 percent). Physics was the least popular course (< 2 percent). Almost three-tenths of the cohort (N=944) did not complete an academic Science course.

TABLE 7

High School Academic Science Courses Taken by Fall 1983 Freshmen[a]

Science Courses*	N	Percent
General, Environmental, or Physical Science	885	27.3
Biology	966	29.7
Chemistry	350	10.8
Physics	57	1.8
Physics and Chemistry	46	1.4
No academic Science courses	944	29.1
Total	**3248**	**100.0%**

a) Academic science courses must satisfy Board of Education standards on curriculum and the number of weekly recitations per semester.

* Science courses are not necessarily sequential; it cannot be assumed that taking Biology, or Chemistry or Physics was preceded by any other science course.

Table 8 presents a breakdown of the highest mathematics course completed by the Fall 1983 cohort. More than one-quarter(26.5 percent) completed only ninth-year mathematics while an additional 12.4 and 7.4 percent subsequently studied geometry and intermediate algebra respectively. More than four-tenths (44.6 percent) did not complete an academic course in mathematics.

TABLE 8

High School Academic Mathematics Courses Taken By Fall 1983 Freshmen[a]

Mathematics Course*	N	Percent
Ninth Year Mathematics (Elementary Algebra)	861	26.5
Geometry	402	12.4
Intermediate Algebra	241	7.4
Eleventh Year Mathematics	294	9.1
No Academic Mathematics Courses	1450	44.6
TOTAL:	3248	100.0%

a) To qualify as an academic mathematics course, Board of Education standards on curriculum and weekly recitations must be satisfied.

* These categories contain discrete data and are not necessarily sequential. For example, a student who completed Intermediate Algebra may not have completed Geometry.

PLACEMENT TEST RESULTS OF THE FALL 1983 COHORT:

Table 9 presents the results of the QCC placement tests in reading, writing and mathematics. Most students took this battery of tests required of all entering students at QCC, in their last semester of high school. More than seven-tenths of all Fall 1983 freshmen required a course(s) in remedial reading, eight-tenths a course in remedial mathematics, and one-half, remedial writing.

TABLE 9

QCC PLACEMENT TEST RESULTS OF FALL 1983 FIRST-TIME FRESHMEN

Placement	N	Percent
Required to take Remedial Reading	2169	71.6
Exempt Remedial Reading	859	28.4
TOTAL	3028	100.0%
Required to take Remedial Writing	1724	56.0
Exempt Remedial Writing	1355	44.0
TOTAL	3079	100.0%
Required to take Remedial Math (MA-010)	2342	81.9
Exempt Remedial Math (MA-010)	518	18.1
TOTAL	2860	100.0%
Required to take Remedial Math (MA-009)*	149	80.5
Exempt Remedial MAth (MA-009)	36	19.5
TOTAL	185	100.0%

* Remedial Math course only for students in the Nursing Program.

CUNY FRESHMAN SKILLS ASSESSMENT TESTS:

Table 10 indicates the pass/fail rate of the Fall 1983 cohort on the City University (CUNY) Freshman Skills Assessment Tests in reading, writing and mathematics. The CUNY battery is a test of minimum competencies in the same three academic skill areas as the QCC placement test battery and is less stringent in reading and mathematics than the QCC battery. (The writing, and reading tests are the same in both batteries). With lower cutoffs established on the CUNY Reading test than the QCC test only about one-third (34.2 percent) failed the CUNY reading test; almost two-thirds (63.3 percent) failed the CUNY mathematics test a failure rate considerably less than the QCC battery.

TABLE 10

CUNY FRESHMAN SKILLS ASSESSMENT TESTS IN READING, WRITING AND MATHEMATICS FOR FALL 1983 FRESHMEN

Test	No. Passed	(%)	No. Failed	(%)	TOTAL	
CUNY Reading Test	2020	(65.8)	1052	(34.2)	3072	(100%)
CUNY Writing Test	1352	(44.0)	1722	(56.0)	3074	(100%)
CUNY Mathematics Test	1117	(36.7)	1925	(63.3)	3042	(100%)

ALL CREDITS SATISFACTORILY COMPLETED AT QCC:

Table 11 compares the number of credits satisfactorily completed by the Fall 1983 cohort after completing both one and two semesters at Queensborough Community College. After one semester, 735 students (22.6 percent) did not satisfactorily complete any credits . The largest group of students (35.3 percent) earned between 6 and 10.5 satisfactorily completed credits with an overall median of 5 satisfactorily completed credits.

After the first semester, 2676 (82.3 percent) of the 3250 freshmen persisters continued their education at QCC for a second semester. In a cumulative analysis of this group of persisters, 6.9 percent did not satisfactorily complete any credits after two semesters while 13.6 percent earned between 1 and 5.5 credits. The largest group (22.0 percent) earned between 14 and 19.5 satisfactorily completed credits and the next largest group (20.8 percent) between 6 and 10.5 credits with an overall median of 13. (See figures 14 and 15 in Appendix A.

Including zeros, the mean number of credits satisfactorily completed rose from 5.1 after one semester to 12.9 after two semesters.

For an analysis of Fall 1983 freshmen comparing persisters with non-persisters by CAA level, curriculum at Queensborough Community College, ESL status, academic probation and Dean's list, the reader is directed to a study by Miller (1984).

Table 11

Credits Satisfactorily Completed* By Fall 1983 Freshmen After One and Two Semesters At QCC

No. of Credits Satisfactorily Completed	After 1 Semester		After 2 Semesters[a]	
	N	Percent	N	Percent
Zero	735	22.6	185	6.9
1 to 5.5	998	30.7	363	13.6
6 to 10.5	1148	35.3	557	20.8
11 to 13.5	280	8.6	356	13.3
14 to 19.5	88	2.7	589	22.0
20 to 23.5	1	1	370	13.8
24 to 27.5	---	---	179	6.7
28 to 33.5	---	---	71	2.7
34 to 41.5	---	---	6	1
TOTAL	3250	100.0%	2676	100.0%
SUMMARY DATA	Including Zeros[b]	Excluding Zeros[b]	Including Zeros[b]	Excluding Zeros[b]
$\bar{X}$	5.102	6.593	12.853	13.808
SD	4.184	3.576	7.937	7.382
Median	5.0	6.00	12.0	13.0
Kurtosis	-0.631	-0.384	-0.787	-0.728
Skewness	0.471	-0.500	0.175	0.236
N	3250	2515	2676	2491

* Not necessarily toward a degree

a) Data for persisters only

b) Zeros on the data tape used in this analysis may represent either an actual zero or a representation of missing data which cannot be sorted out.

CREDITS SATISFACTORILY COMPLETED TOWARD A DEGREE:

Table 12 compares credits satisfactorily completed toward a degree after one and then after two semesters at QCC. (See Figures 16 and 17 in Appendix A for histograms) After one semester 25.5 percent did not satisfactorily complete any credits toward a degree and 8.1 percent after two semesters, somewhat greater than the analysis for all credits satisfactorily completed as shown in Table 11.

Table 12

Credits Satisfactorily Completed By Fall 1983 Freshmen Toward a Degree After One and Two Semesters at QCC

No. of Credits Satisfactorily Completed	After 1 Semester		After 2 Semesters[a]	
	N	Percent	N	Percent
Zero	828	25.5	217	8.1
1- 5.5	1031	31.7	427	16.0
6- 10.5	1069	32.9	662	24.7
11-13.5	243	7.5	393	14.7
14-19.5	78	2.4	490	18.3
20-23.5	1	1	282	10.5
24-27.5	---	---	137	5.1
28-33.5	---	---	64	2.4
34-41.5	---	---	4	1
TOTAL	3250	100.0%	2676	100.0%

SUMMARY DATA	Including Zeros[b]	Excluding Zeros[b]	Including Zeros[b]	Excluding Zeros[b]
$\bar{X}$	4.725	6.340	11.572	12.593
SD	4.137	3.567	7.759	7.256
Median	4.00	6.00	11.0	12.00
Kurtosis	-0.503	-0.310	-0.602	-0.533
Skewness	0.590	0.578	0.389	0.451
N	3250	2422	2676	2459

a) Data for persisters only

b) Zeros on the data tape used in this analysis may represent either an actual zero or as a representation of missing data and cannot be sorted out.

GRADE POINT INDEX (GPI) FOR ALL COURSES:

Table 13 compares cumulative grade point indices (GPI) for all credit courses after one and two semesters. After one semester 22.6 percent did not earn any points which could be applied toward a GPI while almost another one-fourth (24.2 percent) had GPI^S between 0.1 and 1.99. On the positive side more than one-half achieved GPI^S between 2.0 and 4.0 with approximately one-fifth of the cohort in the 3.0 to 4.0 GPI category.

After two semesters, 6.9 percent of the persisters had a GPI of zero and another 42.2 percent had GPI^S between 0.1 and 1.99. On the postive side more than half of the persisters had GPI^S in the 2.0 to 4.0 GPI category, results quite similar to the analysis after one semester. (See Figures 18 and 19 in Appendix A for histograms)

Table 13

Grade Point Index* of Fall 1983 Freshman for All Credit Courses After One and Two Semesters at QCC

	After 1 Semester		After 2 Semesters[a]	
Grade Point Index	N	Percent	N	Percent
Zero	735	22.6	185	6.9
0.1-0.99	209	6.4	320	12.0
1.0-1.99	580	17.8	809	30.2
2.0-2.99	1057	32.5	961	35.9
3.0-4.0	669	20.6	401	15.0
TOTAL	3250	100.0%	2676	100.0%
SUMMARY DATA	Including Zeros[b]	Excluding Zeros[b]	Including Zeros[b]	Excluding Zeros[b]
$\bar{X}$	1.819	2.351	1.932	2.075
SD	1.260	0.895	1.007	0.890
Median	2.035	2.390	2.010	2.10
Kurtosis	-1.218	-0.570	-0.661	-0.641
Skewness	-0.202	-0.263	-0.218	-0.068
N	3250	2515	2676	2491

* Not necessarily toward a degree

a) Data for persisters only

b) Zeros on the data tape used in this analysis may represent either an actual zero or as a representation of missing data and cannot be sorted out.

Table 14 presents GPI^S computed for courses satisfactorily completed toward a degree. Approximately one-fourth did not earn GPI points after one semester and 8.1 percent of the persisters after two semesters (See figures 20 and 21 in Appendix A for histograms).

These data are quite similar to the GPI^S for all credit courses reported in Table 13.

Table 14

Grade Point Index of Fall 1983 Freshmen For Courses Satisfactorily Completed Toward a Degree After One and Two Semesters At QCC

Grade Point Index Toward Degree Courses	After 1 Semester		After 2 Semesters[a]	
	N	Percent	N	Percent
Zero	828	25.5	217	8.1
0.1-0.99	188	5.8	317	11.8
1.0-1.99	566	17.4	787	29.4
2.0-2.99	1008	31.0	928	34.7
3.0-4.00	660	20.3	427	16.0
TOTAL	3250	100.0%	2676	100.0%
SUMMARY DATA	Including Zeros[b]	Excluding Zeros[b]	Including Zeros[b]	Excluding Zeros[b]
$\bar{X}$	1.757	2.358	1.913	2.082
SD	1.285	0.893	1.031	0.898
Median	2.00	2.390	2.0	2.12
Kurtosis	-1.290	-0.572	-0.707	-0.049
Skewness	-0.131	-0.241	-0.203	-0.050
N	3250	2422	2676	2459

a) Data for persisters only

b) Zeros on the data tape used in this analysis may represent either an actual zero or as a representation of missing data and cannot be sorted out.

CORRELATIONS AMONG VARIABLES:

Table 15 displays Pearson product-moment correlation coefficients between high school academic variables of earned units and averages, and QCC academic variables of credits earned, GPI, and raw scores on the CUNY Freshman Skills Assessment Tests in reading, writing and mathematics.

All coefficients were significantly greater than zero with the eleven exceptions noted in the table.

The sixteen highest correlations coefficients in a field of 84 are shown in Table 16. The two high school variables which appear to be most predictive of academic performance at QCC, are the overall College Admit Average (CAA) and the Social Science average.

TABLE 15

Pearson Product-Moment Correlations Between High School* and QCC Academic Variables After Two Semesters of Attendance at QCC

QCC Variables / High School Variables		No. of QCC Credits Satisfactorily Completed	GPI For All courses (Cumulative)	No. of QCC Credits Toward Degree	GPI for Credits Toward Degree	CUNY Reading Test	CUNY Writing Test	CUNY Math Test
H.S. (CAA) Admit Average	r=	.3729	.3798	.3309	.3765	.1495	.2990	.2493
	n=	205	205	200	200	204	205	204
Total H.S. Units	r=	.2968	.2363	.2756	.2221	.3073	.2267	.4035
	n=	205	205	200	200	204	205	204
H.S. English Units	r=	.1089	.0639NS	.1048NS	.0400NS	.1016NS	.1093NS	.1211
	n=	205	205	200	200	204	205	204
H.S. English Average	r=	.2785	.3407	.2448	.3215	.1635	.1285	.1430
	n=	194	194	190	190	194	195	194
H.S. Foreign Lang. Units	r=	.1899	.1171	.1871	.0892	.0826	.1492	.1400
	n=	205	205	200	200	204	205	204
H.S. Foreign Lang. Average	r=	.1731	.2313	.1182	.2269	-.0399NS	.1347	.0577NS
	n=	193	193	189	189	193	194	193
H.S. Math Units	r=	.2991	.2231	.2406	.2322	.2719	.1240	.5658
	n=	205	205	200	200	204	205	204
H.S. Math Average	r=	.2601	.2341	.2072	.2525	.0220NS	.0754NS	.3928
	n=	194	194	190	190	194	195	194
H.S. Science Units	r=	.2285	.1942	.2313	.2075	.2483	.1343	.3413
	n=	205	205	200	200	204	205	204
H.S. Science Average	r=	.2252	.2602	.2372	.2498	.0428NS	.0652NS	.1322
	n=	194	194	190	190	194	195	194
H.S. Social Science Units	r=	.0607NS	.1254	.0654NS	.1145NS	.1739	.1896	.0468NS
	n=	205	205	200	200	204	205	204
H.S. Social Science Aver.	r=	.3538	.3567	.3117	.3627	.4444	.3001	.2664
	n=	194	194	190	190	194	195	194

NS=Not significant at the .05 level. Except where indicated all reported coefficients are significant at the .05 level.

* For June 1983 graduates from selected high schools only.

Table 16

Correlation Coefficients Greater Than .3000 Between High School And QCC Academic Variables

	CORRELATION	PEARSON r	PERCENT OF EXPLAINED VARIANCE
1.	H.S. Mathematics Units vs CUNY Math Test	.5658	32.0
2.	H.S. Social Science Average vs CUNY Reading Test	.4444	19.7
3.	Total H.S. Units vs CUNY Math Test	.4035	16.3
4.	H.S. Mathematics Average vs CUNY Math Test	.3928	15.4
5.	H.S. Admit Average vs GPI for all Courses	.3798	14.4
6.	H.S. Admit Average vs GPI for Credits Toward Degree	.3765	14.2
7.	H.S. Admit Average vs QCC Credits Satisfactorily Completed	.3729	13.9
8.	H.S. Social Science Average vs GPI for Credits Toward a Degree	.3627	13.2
9.	H.S. Social Science Average vs GPI for all Courses	.3567	12.7
10.	H.S. Social Science Average vs QCC Credits Satisfactorily Completed	.3538	12.5
11.	H.S. Science Units vs CUNY Math Test	.3413	11.6
12.	H.S. English Average vs GPI for all Courses	.3407	11.6
13.	H.S. Admit Average vs QCC Credits Toward a Degree	.3309	10.9
14.	H.S. English Average vs GPI for Credits Toward a Degree	.3215	10.3
15.	H.S. Social Science Average vs QCC Credits Toward a Degree	.3117	9.7
16.	H.S. Social Science Average vs CUNY Writing Test	.3001	9.0

The Relationship Between High School Academic Variables And Academic Performance At QCC Using Regression Analysis:

The major objective of this part of the study was to determine which high school academic variables appreciably affected academic performance at Queensborough Community College. A series of regression analyses were conducted.

In a stepwise multiple regression analysis, an assessment was made of the relative importance of two academic high school variables on academic performance at QCC. Specifically, the overall high school college admit average (CAA) and total number of high school academic units earned by Fall 1983 freshmen were compared on the extent of their contribution in explaining the academic performance at QCC on the number of credits satisfactorily completed and Grade Point Index (GPI) after completing two semesters. The analysis was restricted to students who attended the ten selected high schools which adhered to acceptable guidelines in calculating high school averages and units.

The relatively high intercorrelation between the independent variables of CAA and the total number of units earned in high school ($r=.5177$) introduced a problem of multicollinearity in interpreting the solved regression equation and the impact of each of these variables separately.

In searching for violations of assumptions of linearity and homogeneity of variance, scatterplots between predicted and residual values revealed that these assumptions were met.

Table 17 presents the stepwise multiple linear regression analysis results measuring the extent to which total high school units and CAA can predict the number of credits satisfactorily completed at QCC.

Table 17 indicates that approximately 20 percent of the variance, of the number of credits satisfactorily completed at QCC can be explained by high school average and the total number of high school units; the number of total high school units accounted for most of this explained variance. It appears then, that approximately 80 percent of the variance was left unexplained by variables not in this study.

Table 17

Stepwise Multiple Regression of Number of QCC Credits Satisfactorily Completed on High School College Admit Average (CAA) and Total High School Units[a]

		Analysis of Variance			
			DF	SS	MS
Multiple R	.44458	Regression	2	4860.31	2430.16
R Square	.19765	Residual	439	19730.54	44.94
Adjusted R. Square	.19399				
Standard Error	6.70405	F = 54.07		p.< .01	

Variables In The Equation:

Variable	B	SE of B	BETA	T	Significance
Total Units	.66316	.12380	.27211	5.36	p. < .01
CAA Admit Average	.29752	.06457	.23408	4.61	p. < .01
Constant	-13.575	4.138		3.28	p.< .01

a) Total high school units do not include music, art and physical education.

A somewhat higher percentage of explained variance (R^2 = 20.2 percent) was obtained when total high school units, including units in music and art, were substituted for the number of high school units without music, art and physical education.

Similar results occurred when the number of credits earned toward a degree served as the dependent variable. (R^2 = 18.4 perecent)

Table 18 presents the results of a regression analysis of GPI at QCC regressed on the number of high school units and CAA which shows that the percentage of explained variance was somewhat lower (R^2 = 17.7 percent). Both independent variables were included in the regression equation.

Table 18

Stepwise Multiple Regression of Number of QCC Grade Point Index (GPI) on College Admit Averages (CAA) and Total High School Units

		Analysis of Variance			
			DF	SS	MS
Multiple R	.42099				
R Square	.17723	Regression	2	62.01	31.0
Adjusted R Square	.17348	Residual	439	287.86	0.656
Standard Error	.80976	F = 47.28		F = p < .01	

In a comparison of the effect of the number of high school units by academic area on the CUNY Freshman Skills Assessment Tests, the number of mathematics units accounted for most of the variance in the CUNY Mathematics Skills Assessment test (R^2 = 35.0 percent). On the CUNY Reading Skills test, the number of Science, English and Mathematics units accounted for 14.6 percent of the variance. On the CUNY Writing Skills test, the number of English, Foreign Language and Math units accounted for 12.2 percent of the variance.

Comparing the total number of high school units and averages in a regression analysis with performance on the CUNY Freshman Skills Assessment tests in Reading, Writing and Mathematics, the results in Table 19 occurred.

Table 19

Regression of CUNY Freshman Skills Assessment Tests in Reading, Writing and Mathematics on the Total Number of High School Units and CAA

Independent Variable	Dependent Variable	Percent of Explained Variance
No. of High School Units*	CUNY Reading Test	R^2 = 13.3 percent
No. of High School Units and CAA	CUNY Writing Test	R^2 = 11.9 percent
No. of High School Units and CAA	CUNY Math Test	R^2 = 22.1 percent

* CAA was not entered into the equation by the regression procedure since it did not meet entry requirements.

Conclusion and Discussion:

It was apparent from all the preceding regression analyses, that neither the total number of units earned in high school nor overall high school averages (CAA) were strongly related to academic performance at QCC as defined by credits completed or grade point index (GPI). Of the two high school variables the number of total units accounted for most of the variance. At most only 20 percent of the variance of credits and GPI was explained by high school performance.

In an analysis by academic area on the CUNY tests, the number of high school mathematics and science units explained more than one-third of the variance on the CUNY mathematics test. As one would expect, the more mathematics courses taken in high school, the better the performance of this sample on the CUNY mathematics test. On the CUNY reading test, the number of Science, English and Mathematics units contributed almost 15 percent of the variance, while on the CUNY writing test, the number of English, Foreign Language and Mathematics units accounted for 12 percent of the variance.

Many studies in the literature have shown that high school averages can be good predictors of success in college. In a study by Scannell (1968), a correlation of .67 was found between high school averages and freshman college GPI and .59 after four years of college; high school grades thus accounted for approximately 35 percent of the

Conclusion and Discussion (continued)

variance of college grades after four years. Worell (1958) found that by adding non-cognitive measures, such as levels of aspiration, prediction of college performance rose to 54 percent of explained variance. Astin (1968) found that the most important influence on level of achievement in college was academic ability as measured in high school.

In explanation, it may very well be that two semesters is too short a period for academic high school variables to predict performance at QCC given that non-credit remedial courses in reading, writing and mathematics are usually taken in the early semesters. Credits and GPI will be further monitored for Fall 1983 freshmen to determine whether these findings are consistent in subsequent semesters.

Another explanation of the lack of a strong linear relationship between performance in high school and college, may be the weakness of the academic data supplied by UAPC to QCC. Until a uniform set of guidelines is used by all high schools for assigning units and calculating academic averages and accompanied by procedures to assure that these guidelines are followed, the validity of these UAPC data remains questionable.

It could also be that the absence of twelfth grade data on units and averages for June 1983 graduates may have attenuated the results of this study.

Conclusion and Discussion (continued)

It should also be considered that intervening variables at QCC such as remediation, counseling, changes in motivation and maturity may have overcome previous secondary academic performance.

References

Astin, A.W., "Undergraduate achievement and institutional excellence", Science, v. 161, (1968), 661-668.

Miller, M., "An academic profile of the Fall 1983 first-time freshman cohort: A preliminary report.", Office of Institutional Research, Queensborough Community College, 1984.

Scannell, D., "Prediction of college success from elementary and secondary performance", Journal of Educational Psychology, v. 51, (1960), 130-134.

Worell, L., "Level of aspiration and academic success", Journal of Educational Psychology, v. 50, (1959), 47-54.

APPENDIX A

Figures 2 through 21

Figure 2A: High School Averages of Fall 1983 Freshmen for All High Schools

Figure 2B: High School Averages of Fall 1983 Freshmen for Selected High Schools

Figure 3: Frequency of Total Units Earned By Fall 1983 Freshmen From Selected High Schools

Figure 4: Frequency of English Earned By Fall 1983 Freshmen From Selected High Schools

Figure 5: Frequency of English Averages of Fall 1983 Freshmen at Selected High Schools

Figure 6: Frequency of Foreign Language Units Earned By Fall 1983 Freshmen in Selected High Schools

Figure 7: Frequency of Foreign Language Averages of Fall 1983 Freshmen at Selected High Schools

Figure 8: Frequency of Mathematics Units Earned By Fall 1983 Freshmen in Selected High Schools

Figure 9: Frequency of Mathematics Averages of Fall 1983 Freshmen at Selected High Schools

Figure 10: Frequency of Science Units Earned By Fall 1983 Freshmen in Selected High Schools

Figure 11: Frequency of Science Averages of Fall 1983 Freshmen at Selected High Schools

Figure 12: Frequency of Social Science Units Earned By Fall 1983 Freshmen in Selected High Schools

Figure 13: Frequency of Social Science Averages of Fall 1983 Freshmen at Selected High Schools

Figure 14: Credits Satisfactorily Completed by Fall 1983 Freshmen After One Semester at QCC

Appendix A Continued:

Figure 15: Credits Satisfactorily Completed By Fall 1983 Freshmen After Two Semesters at QCC (Peristers Only)

Figure 16: Credits Satisfactorily Completed Toward a Degree After One Semester at QCC

Figure 17: Credits Satisfactorily Completed Toward A Degree After Two Semesters (Persisters Only)

Figure 18: Grade Point Index (GPI) For All Credits Courses After One Semester

Figure 19: Grade Point Index (GPI) For All Credit Courses After Two Semesters (Persisters Only)

Figure 20: Grade Point Index (GPI) For Courses Satisfactorily Completed Toward A Degree After One Semester

Figure 21: Grade Point Index (GPI) For Courses Satisfactorily Completed Toward a Degree After Two Semesters (Persisters Only)

Figure 2A: High School Averages of Fall 1983 Freshmen for All High Schools

ADMTAVER HS ADMIT AVERAGE

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 30.00 OCCURRENCES
1	46.0	
0	48.5	
0	51.0	
4	53.5	
2	56.0	
15	58.5	*
24	61.0	*
80	63.5	***
205	66.0	*******
307	68.5	**********
1204	71.0	**
384	73.5	*************
419	76.0	**************
237	78.5	********
128	81.0	****
64	83.5	**
39	86.0	*
21	88.5	*
24	91.0	*
3	93.5	
1	96.0	

AVERAGE

I....+....I....+....I....+....I....+....I....+....I....+....I

0 300 600 900 1200 1500

HISTOGRAM FREQUENCY

Figure 2B: High School Averages of Fall 1983 Freshmen for Selected High Schools

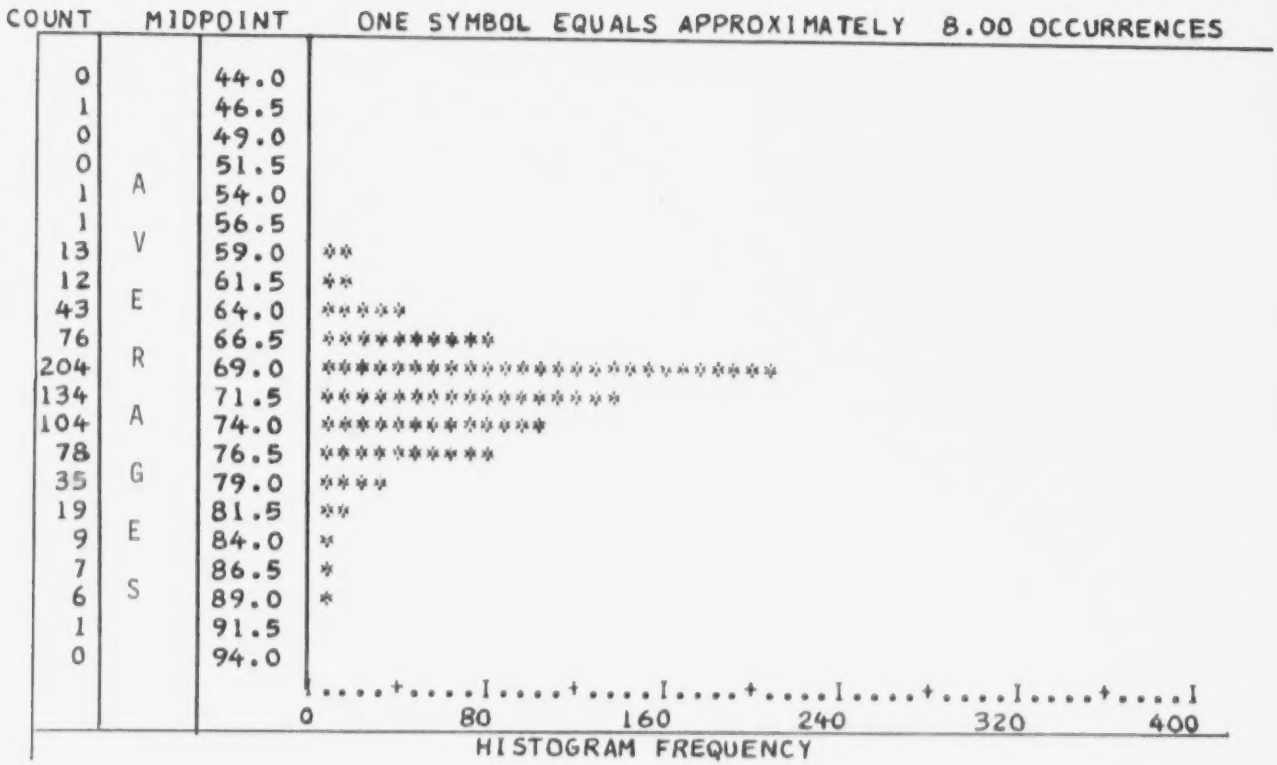


Figure 3: Frequency of Total Units Earned By Fall 1983 Freshmen From Selected High Schools

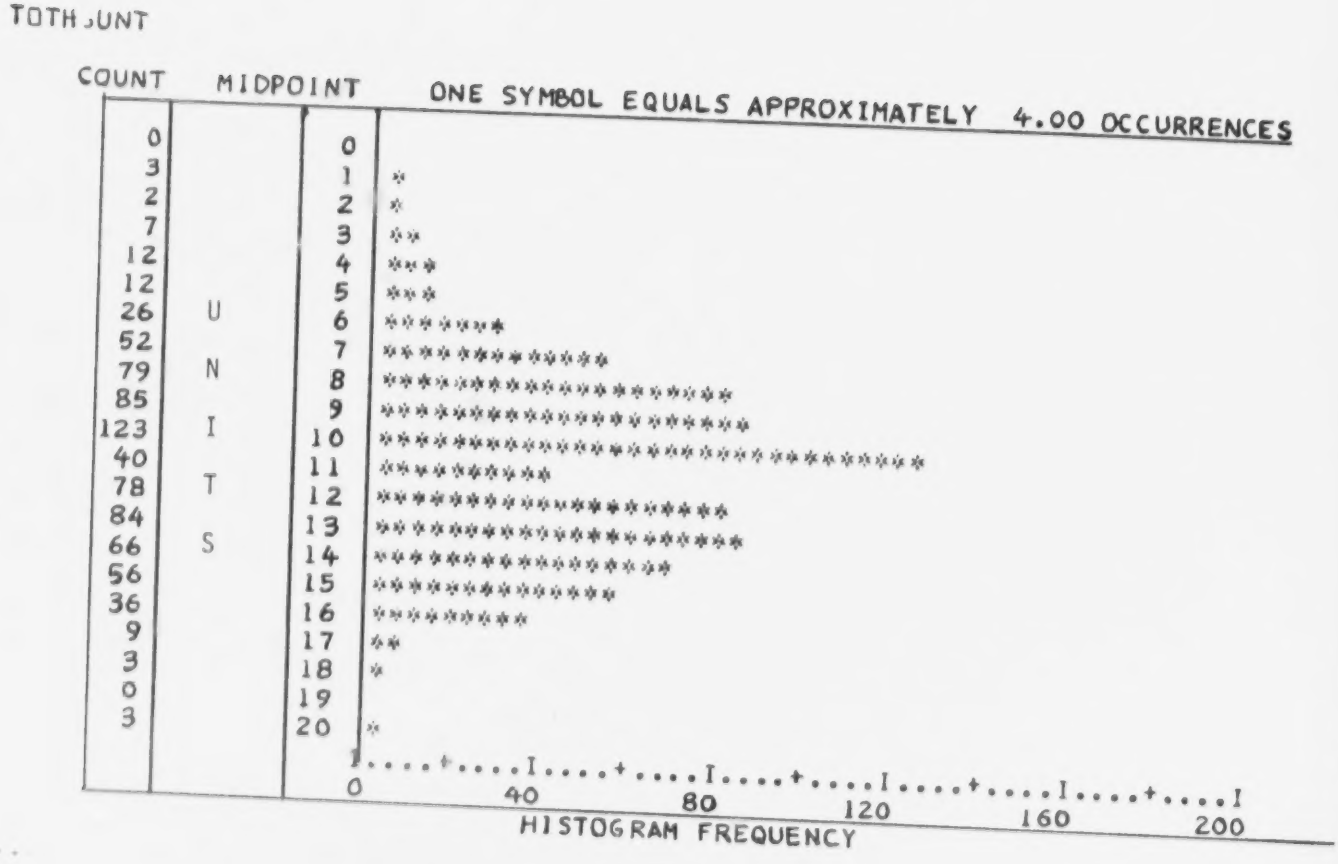


Figure 4: Frequency of English Units Earned by Fall 1983 Freshmen from Selected High Schools

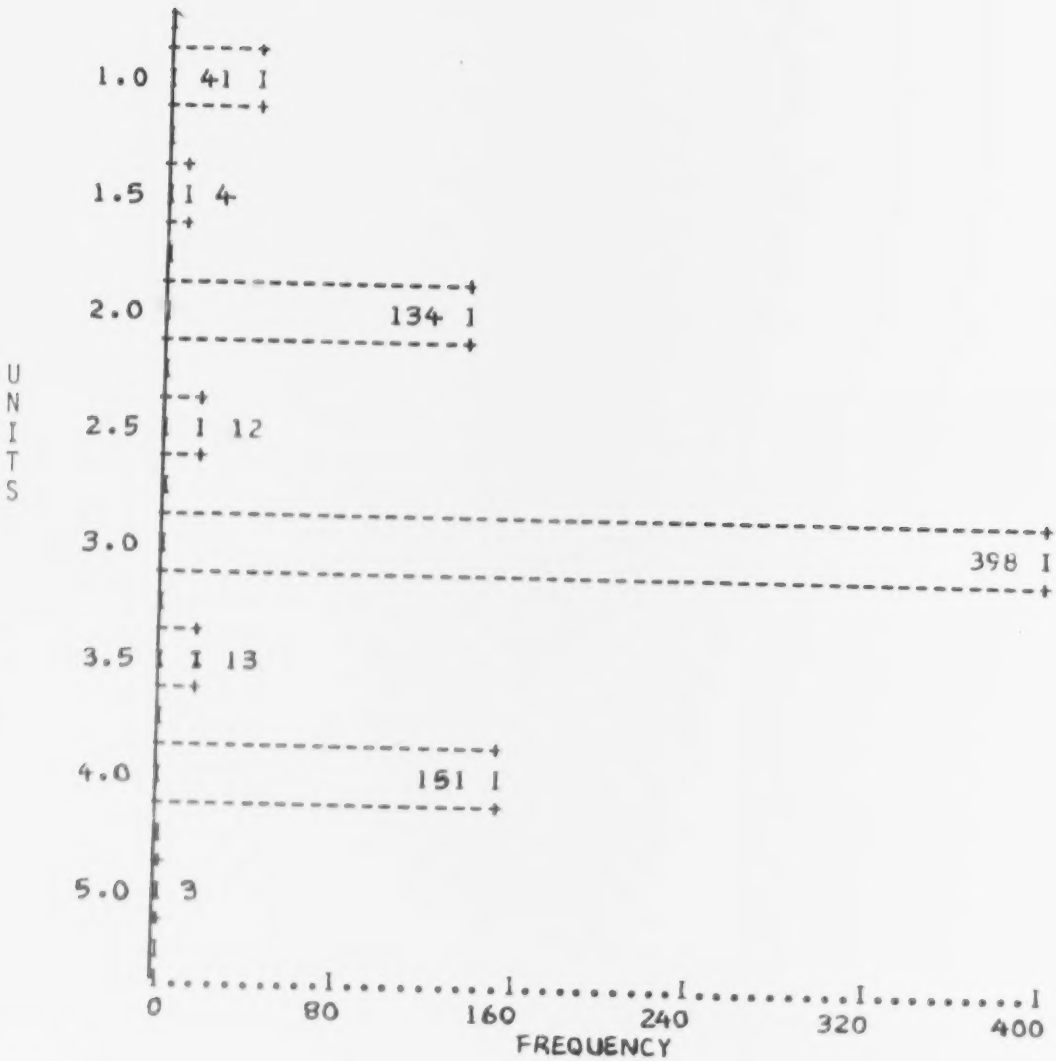


Figure 5: Frequency of English Averages of Fall 1983 Freshmen at Selected High Schools

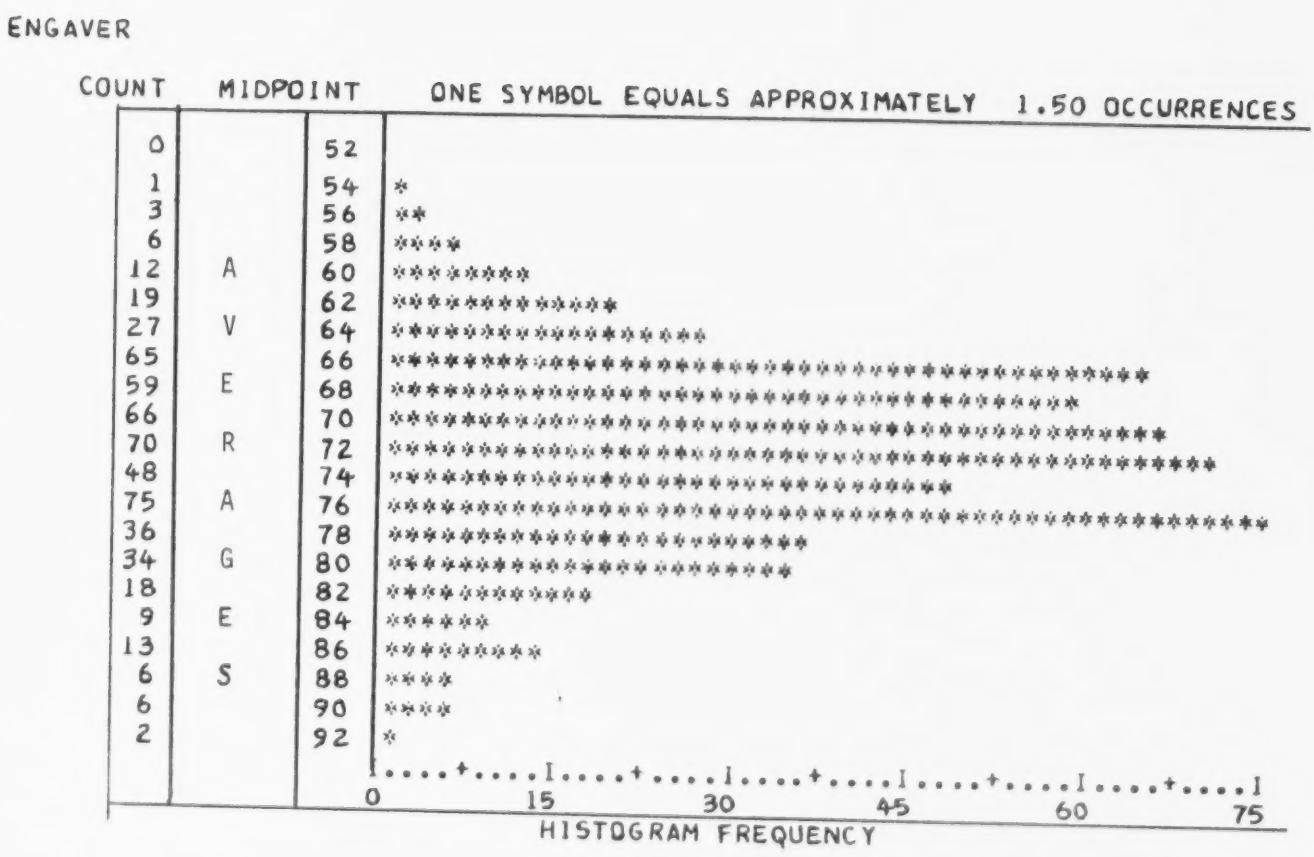


Figure 6: Frequency of Foreign Language Units Earned By Fall 1983 Freshmen in Selected High Schools

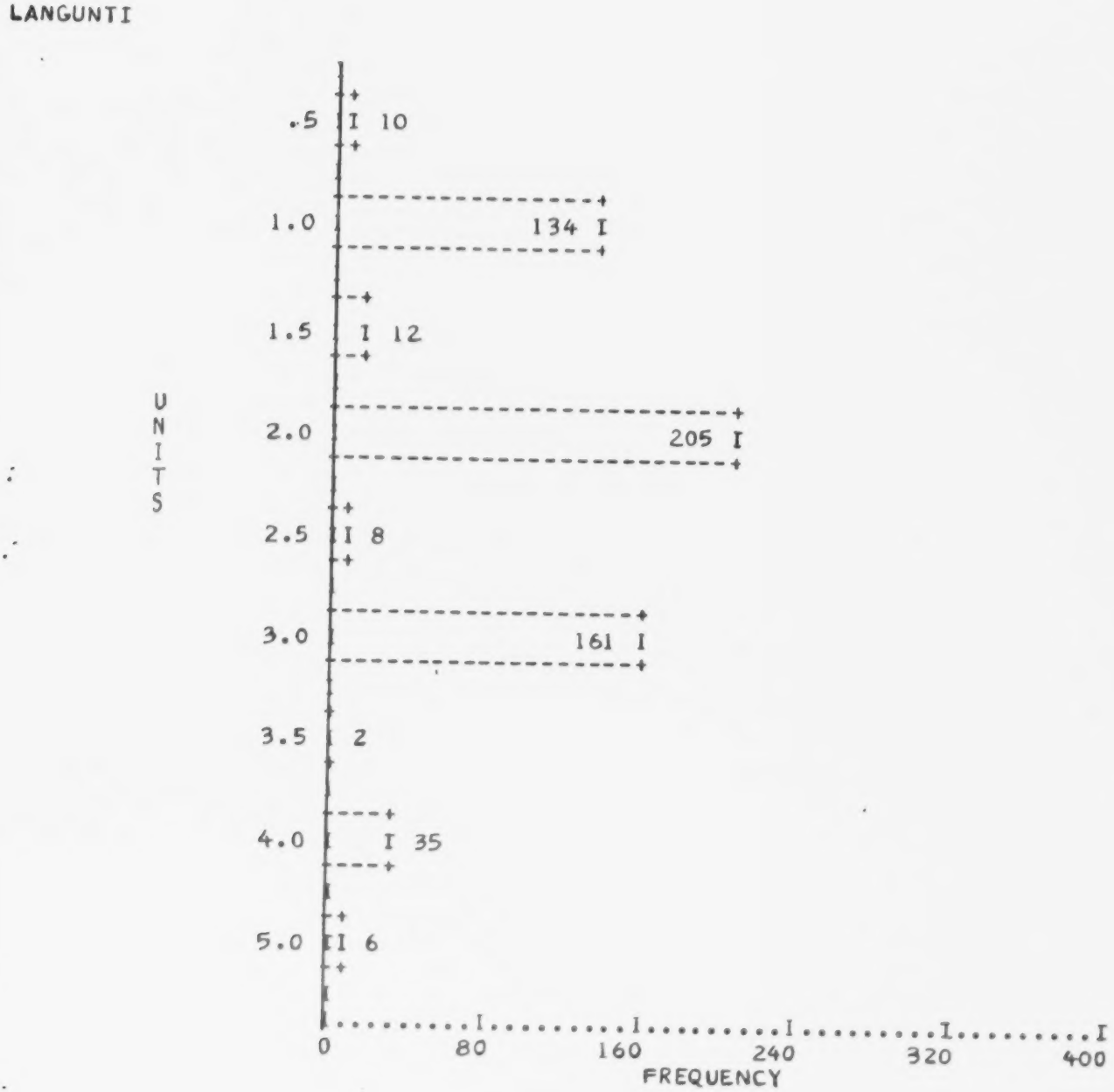


Figure 7: Frequency of Foreign Language Averages of Fall 1983 Freshmen at Selected High Schools

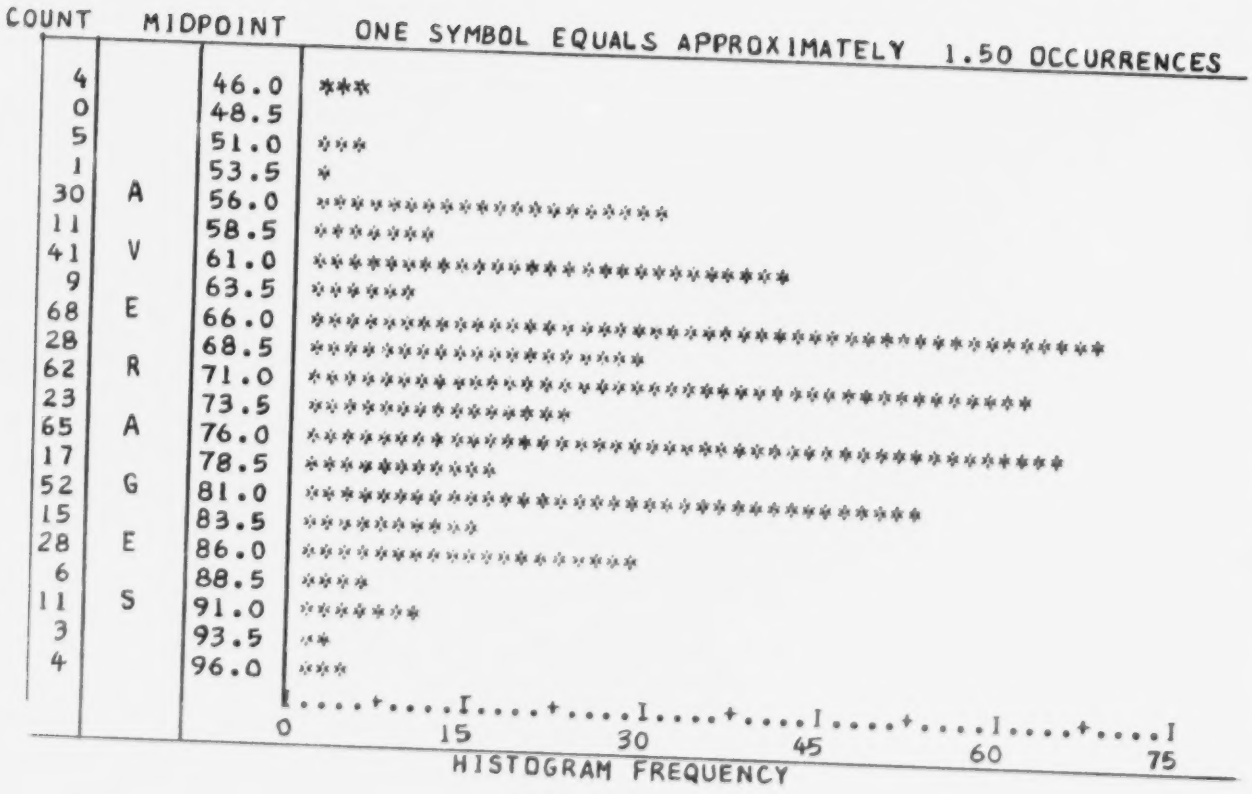


Figure 8: Frequency of Mathematics Units Earned By Fall 1983 Freshmen in Selected High Schools

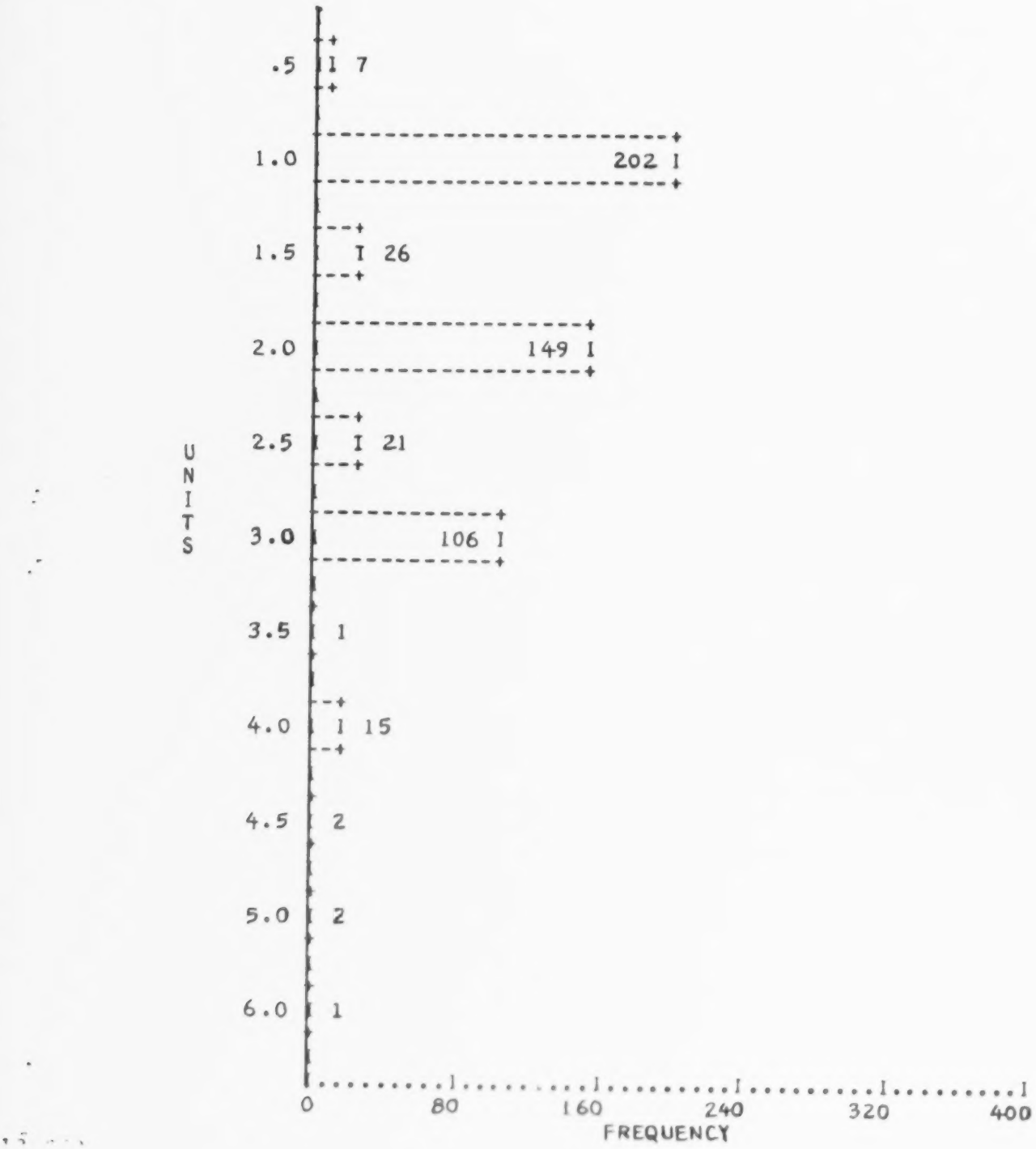


Figure 9: Frequency of Mathematics Averages of Fall 1983 Freshmen at Selected High Schools

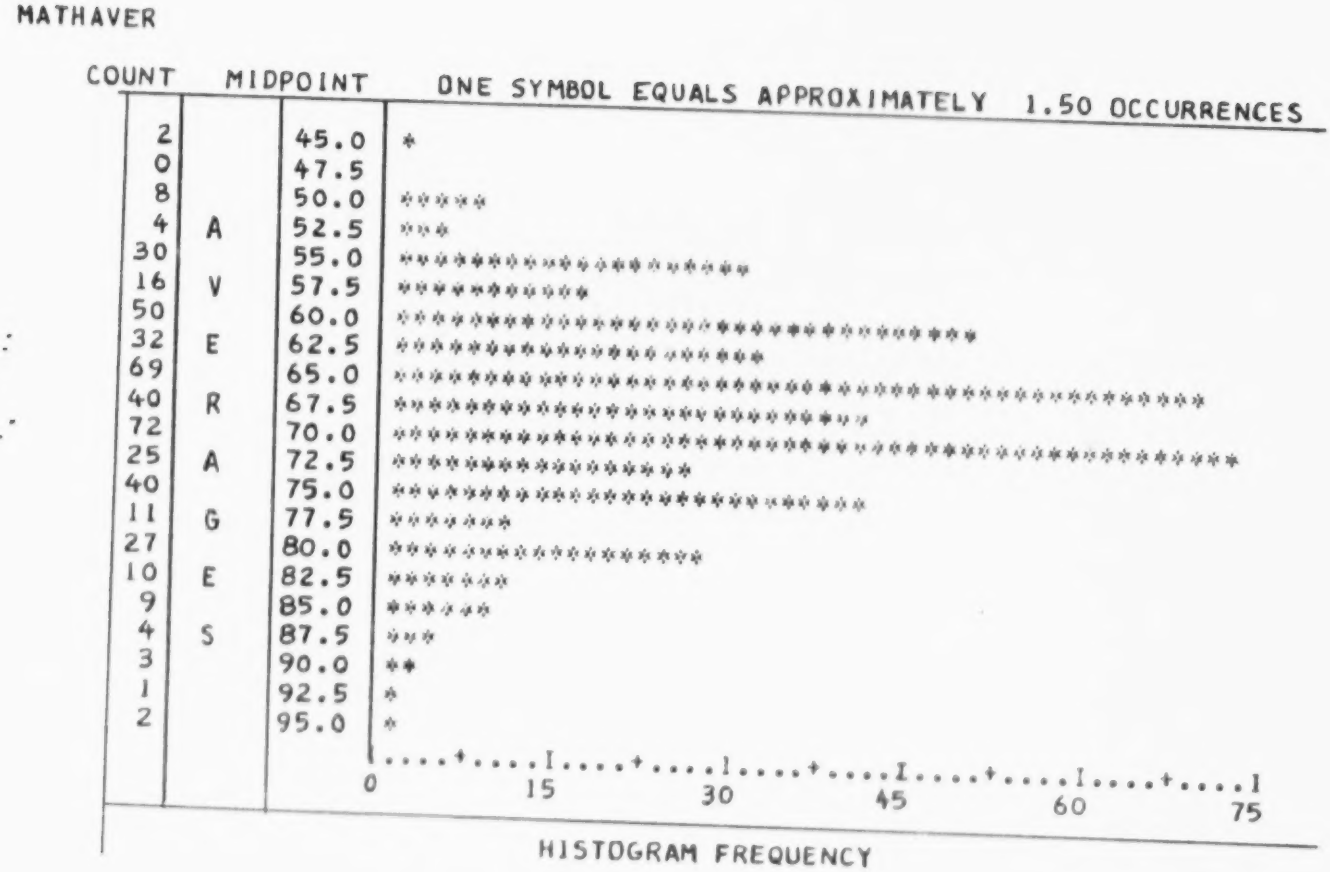


Figure 10: Frequency of Science Units Earned By Fall 1983 Freshmen in Selected High Schools

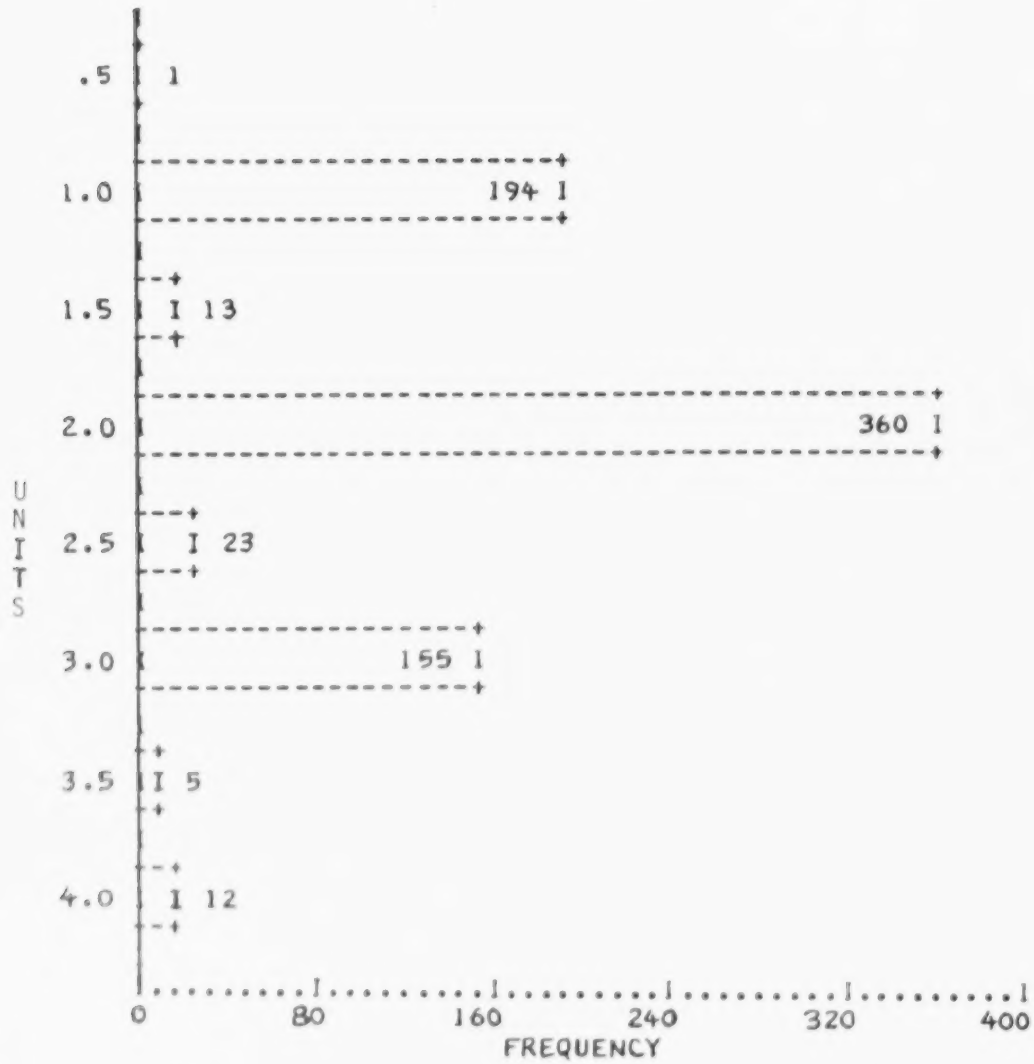


Figure 11: Frequency of Science Averages of Fall 1983 Freshmen at Selected High Schools

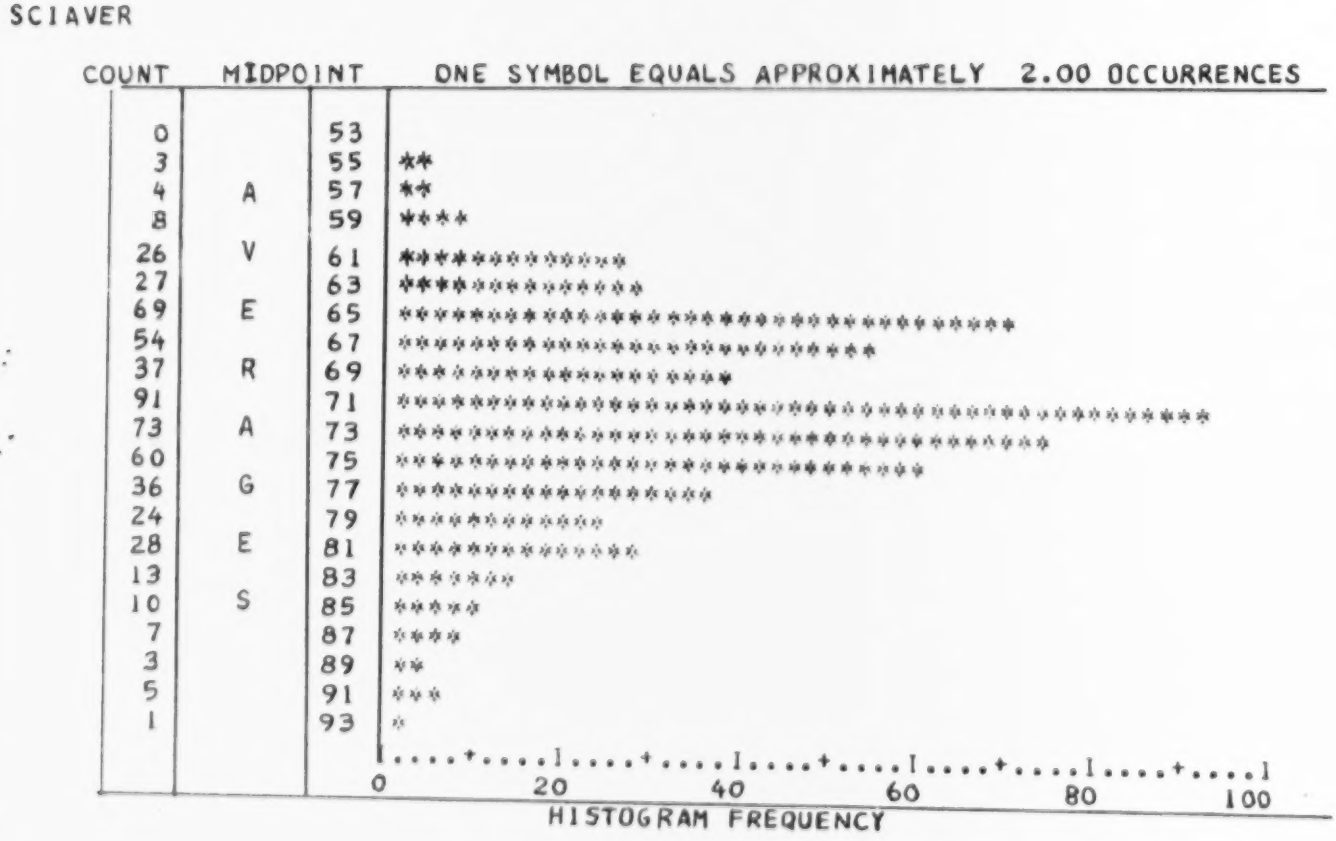


Figure 12: Frequency of Social Science Units Earned by Fall 1983 Freshmen in Selected High Schools

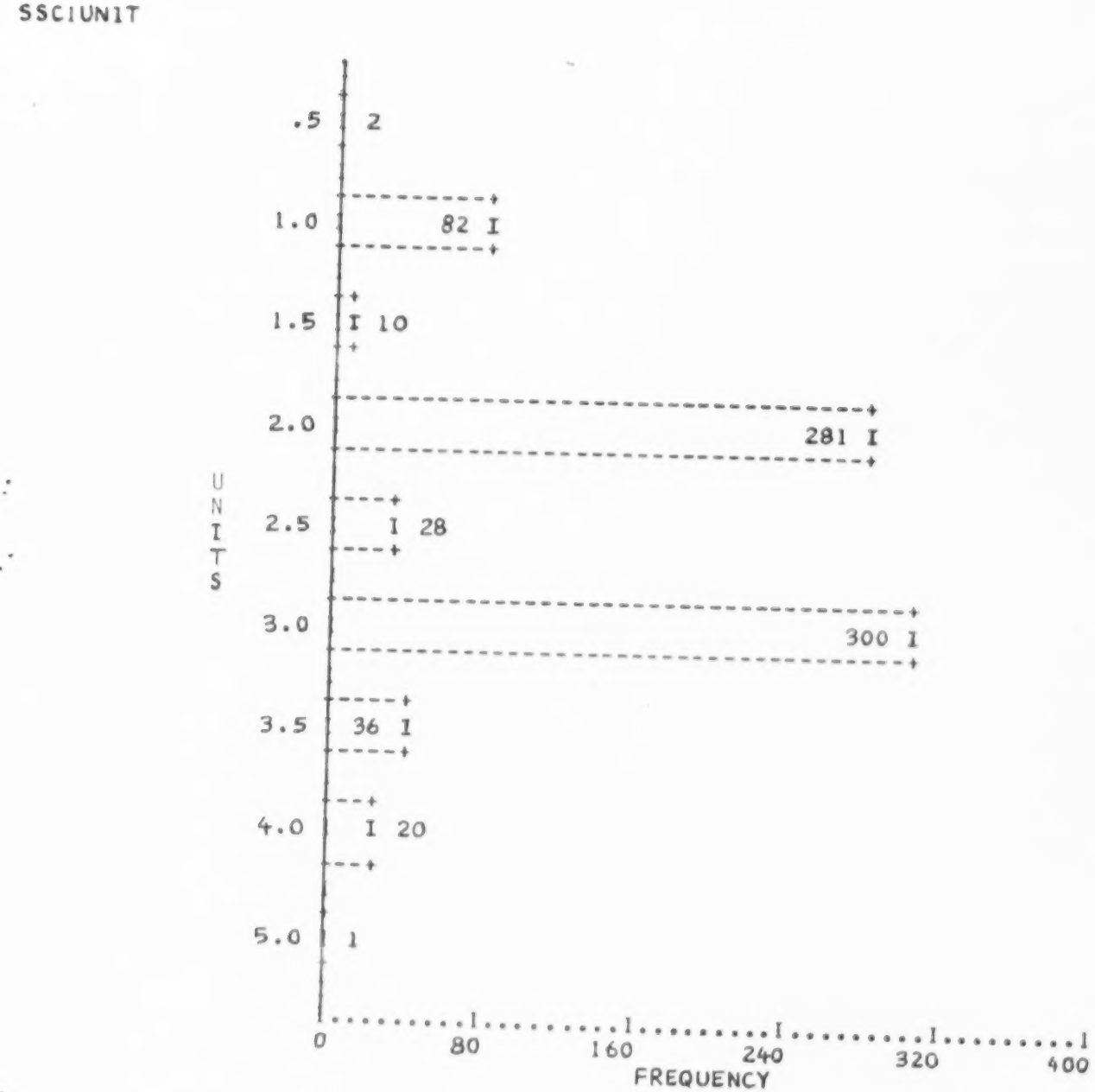


Figure 13: Frequency of Social Science Averages of Fall 1983 Freshmen at Selected High Schools

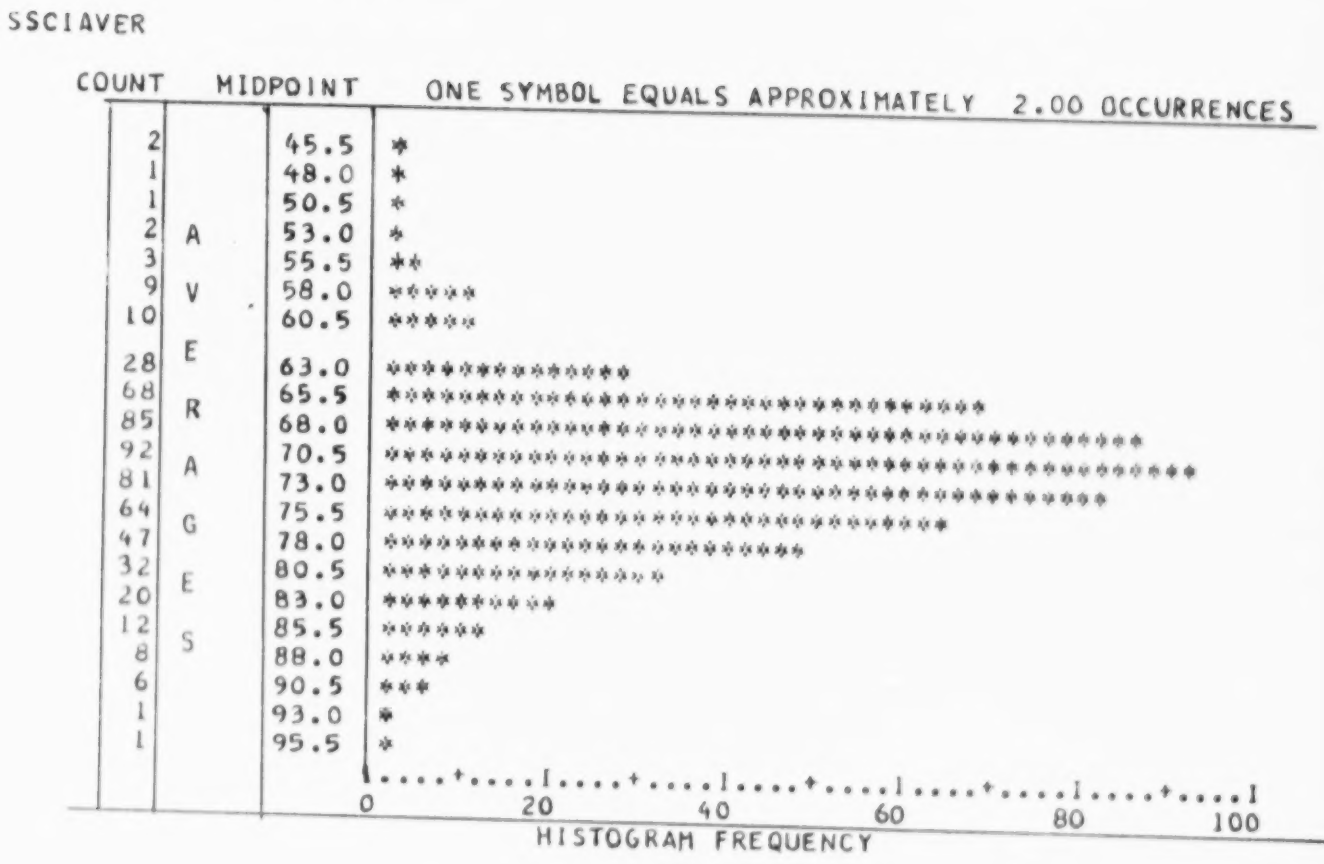


Figure 14: Credits Satisfactorily Completed By Fall 1983
Freshmen After One Semester at QCC

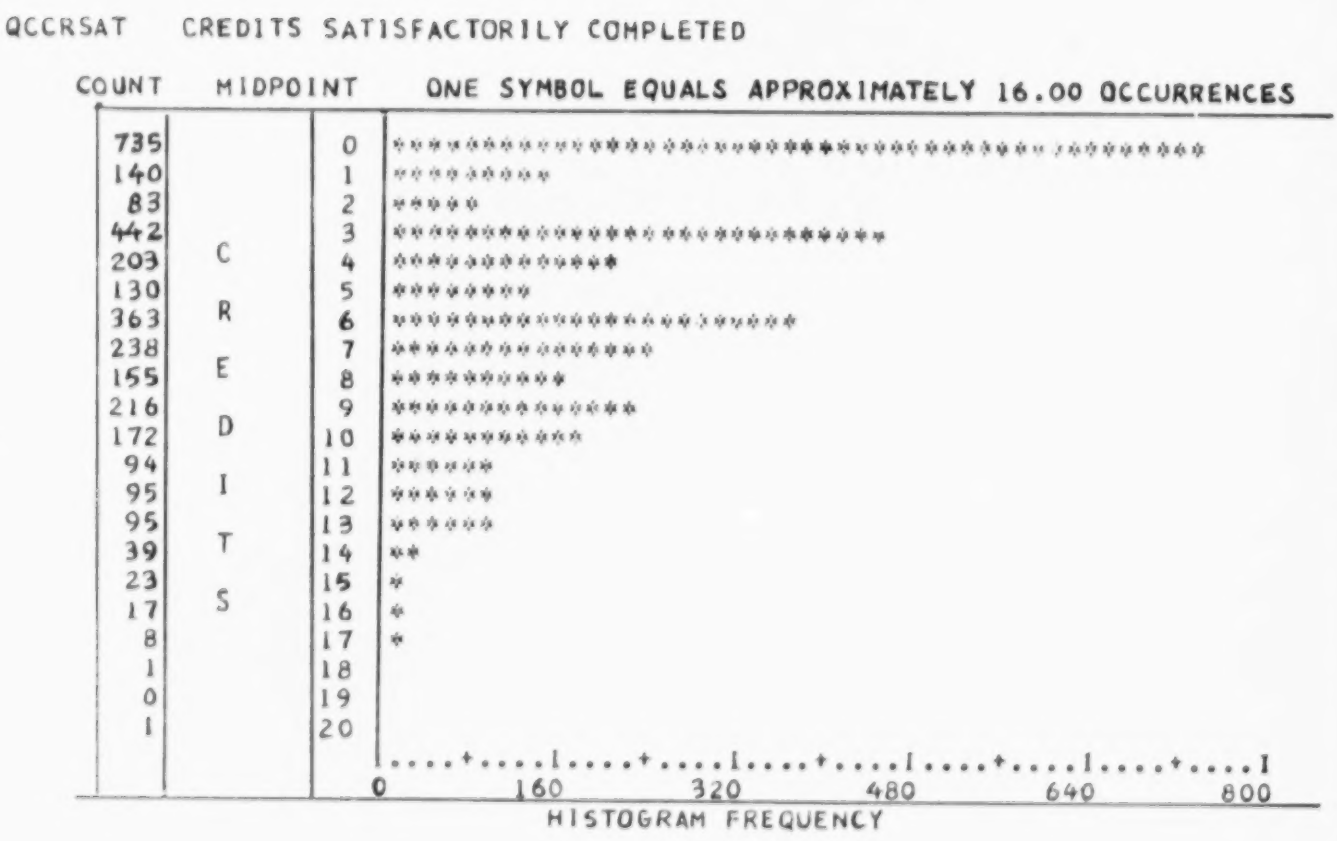


Figure 15: Credits Satisfactorily Completed By Fall 1983
Freshmen After Two Semesters at QCC (Persisters Only)

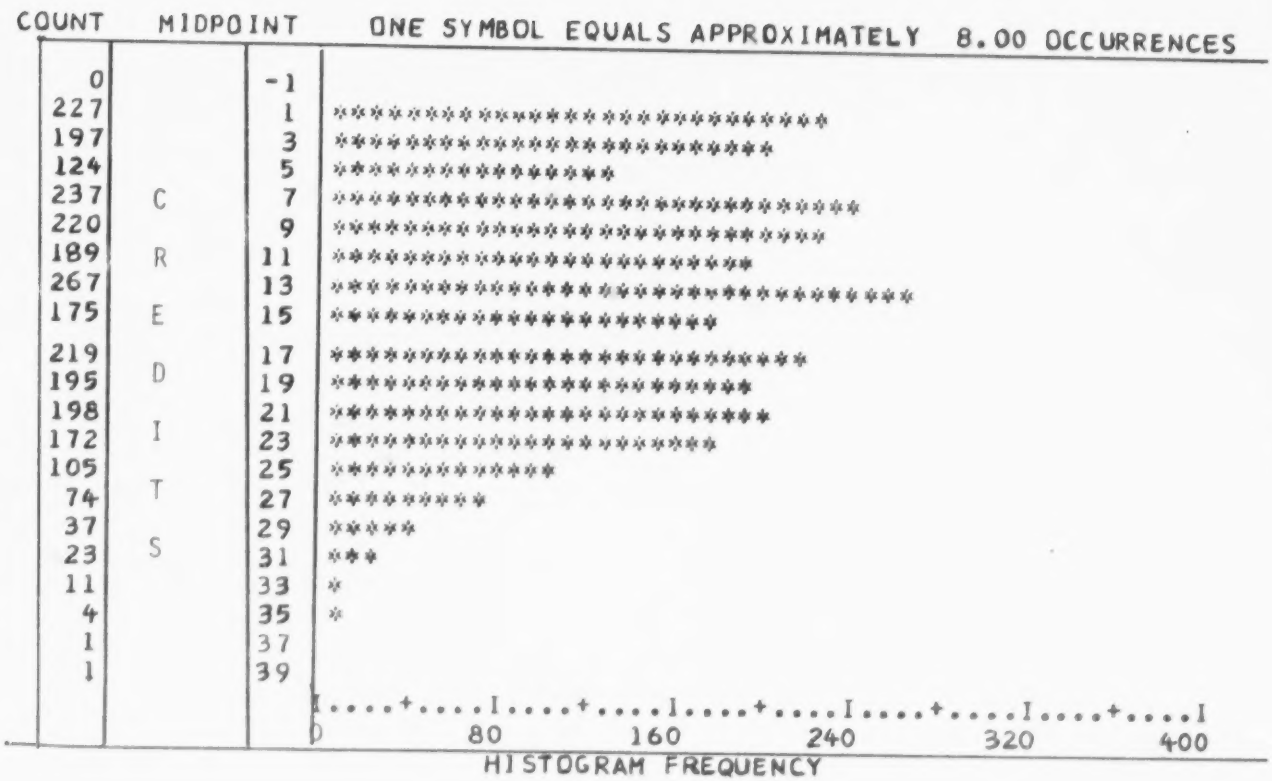


Figure 16: Credits Satisfactorily Completed Toward a Degree After One Semester at QCC

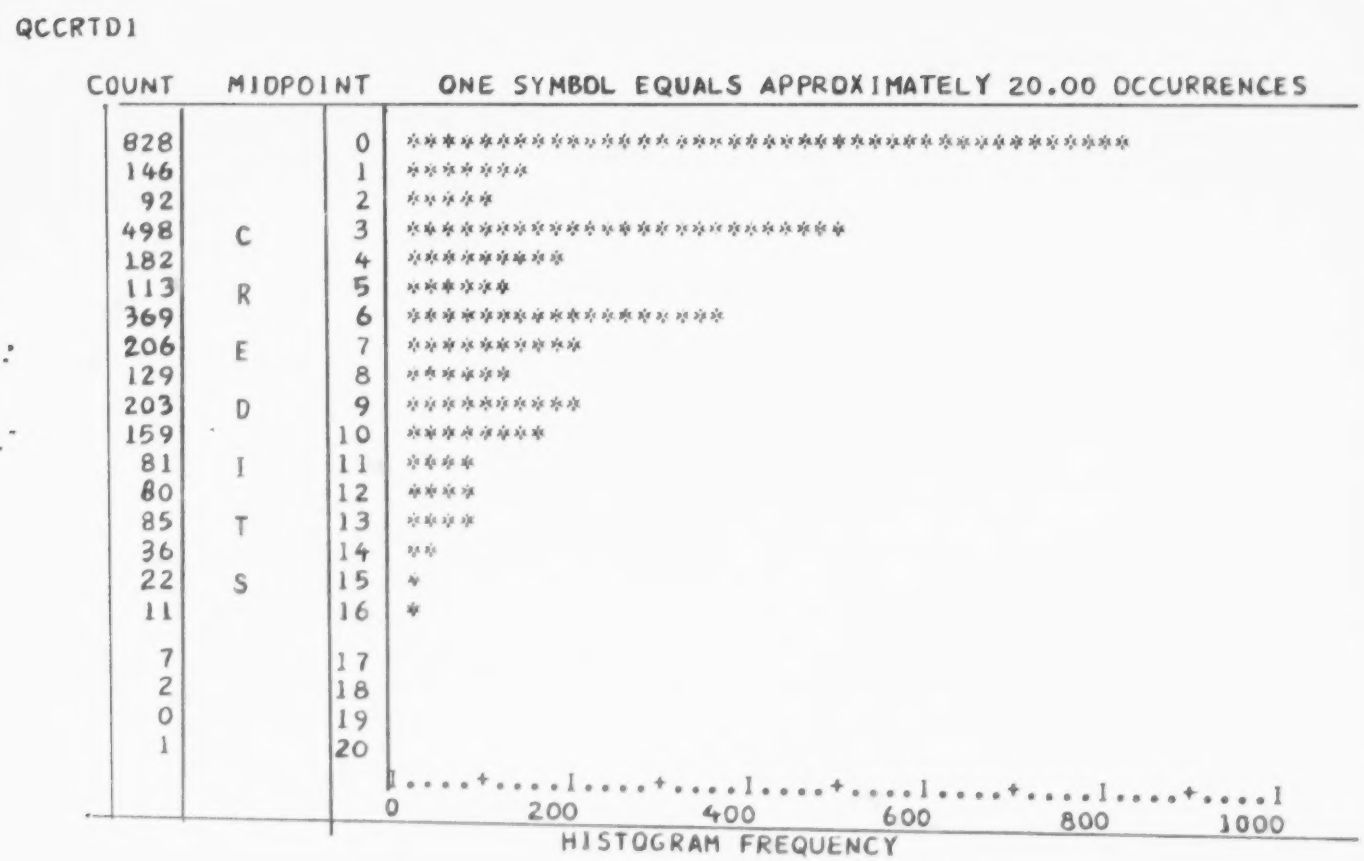


Figure 17: Credits Satisfactorily Completed Toward a Degree After Two Semesters (Persisters Only)

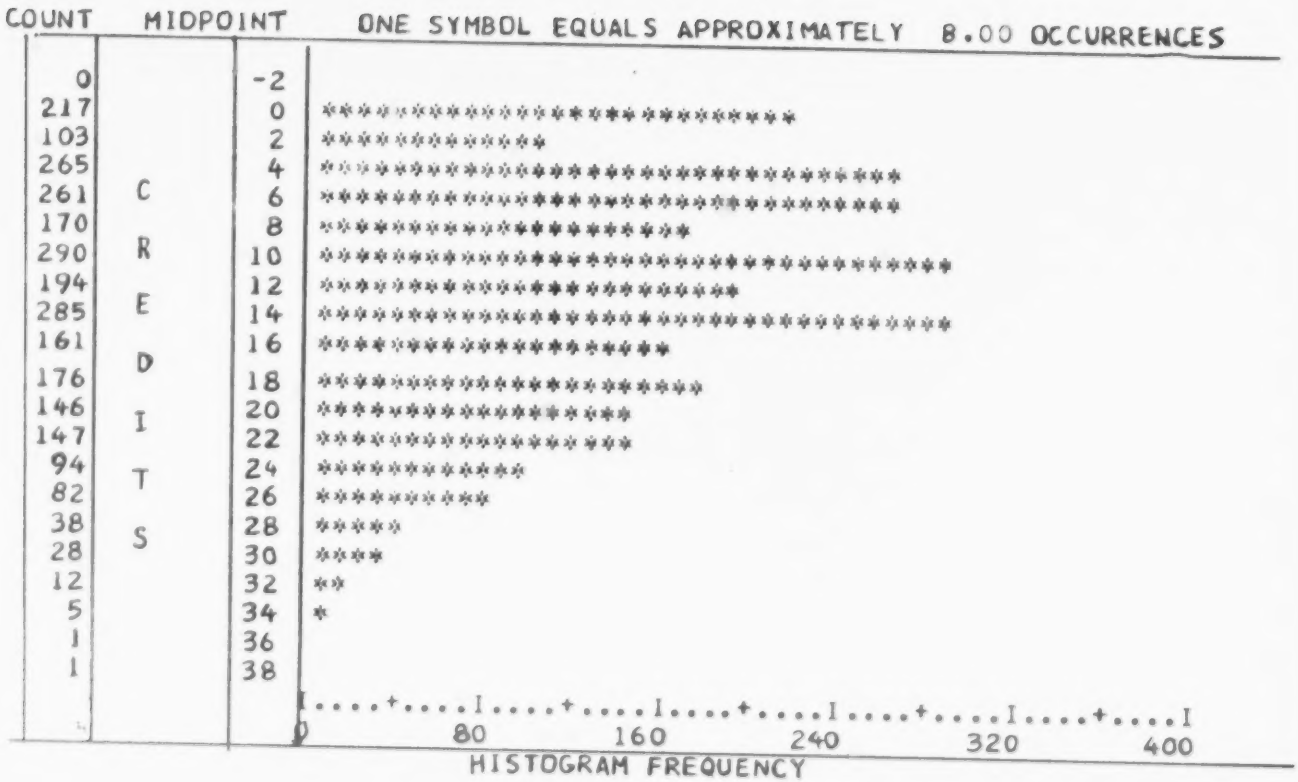


Figure 18: Grade Point Index (GPI) For All Credit Courses After One Semester

CUMINDX

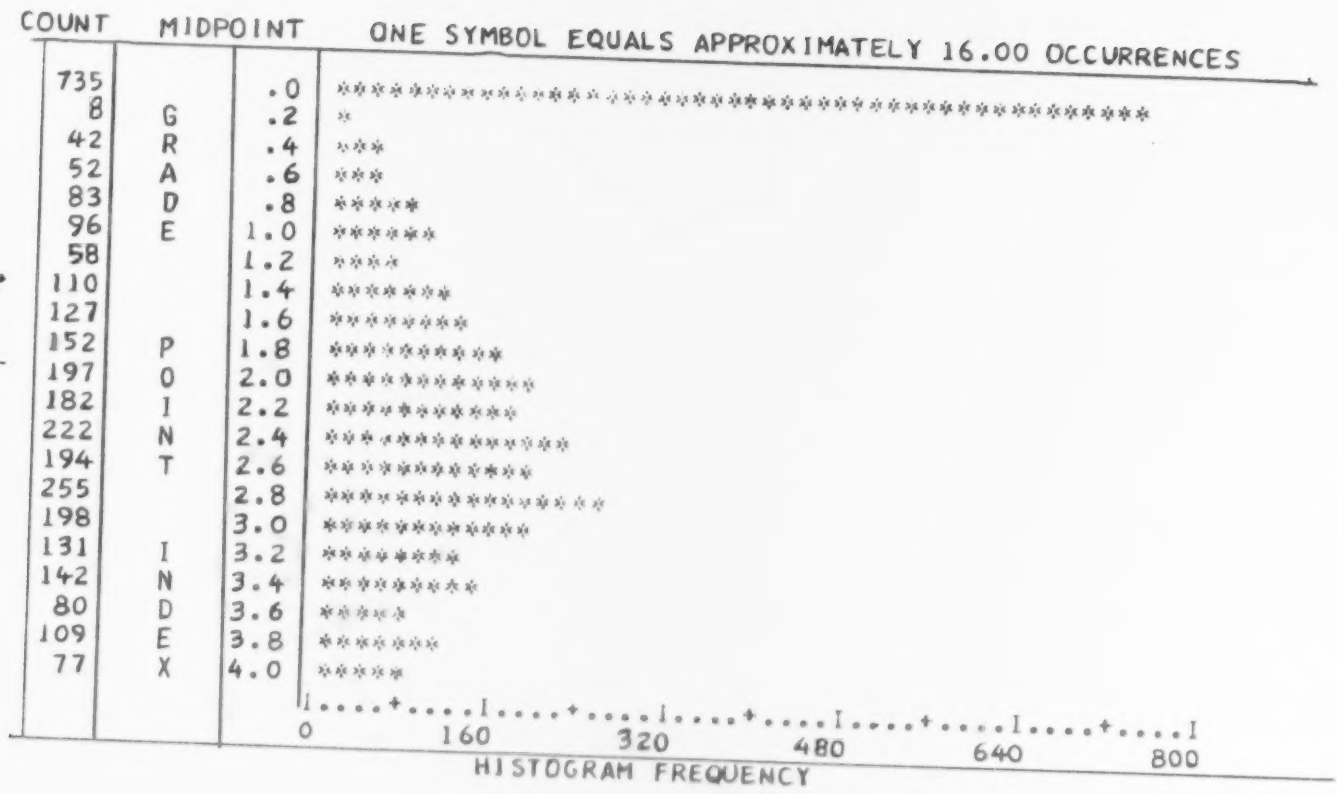


Figure 19: Grade Point Index (GPI) for All Credit Courses After Two Semesters (Persisters Only)

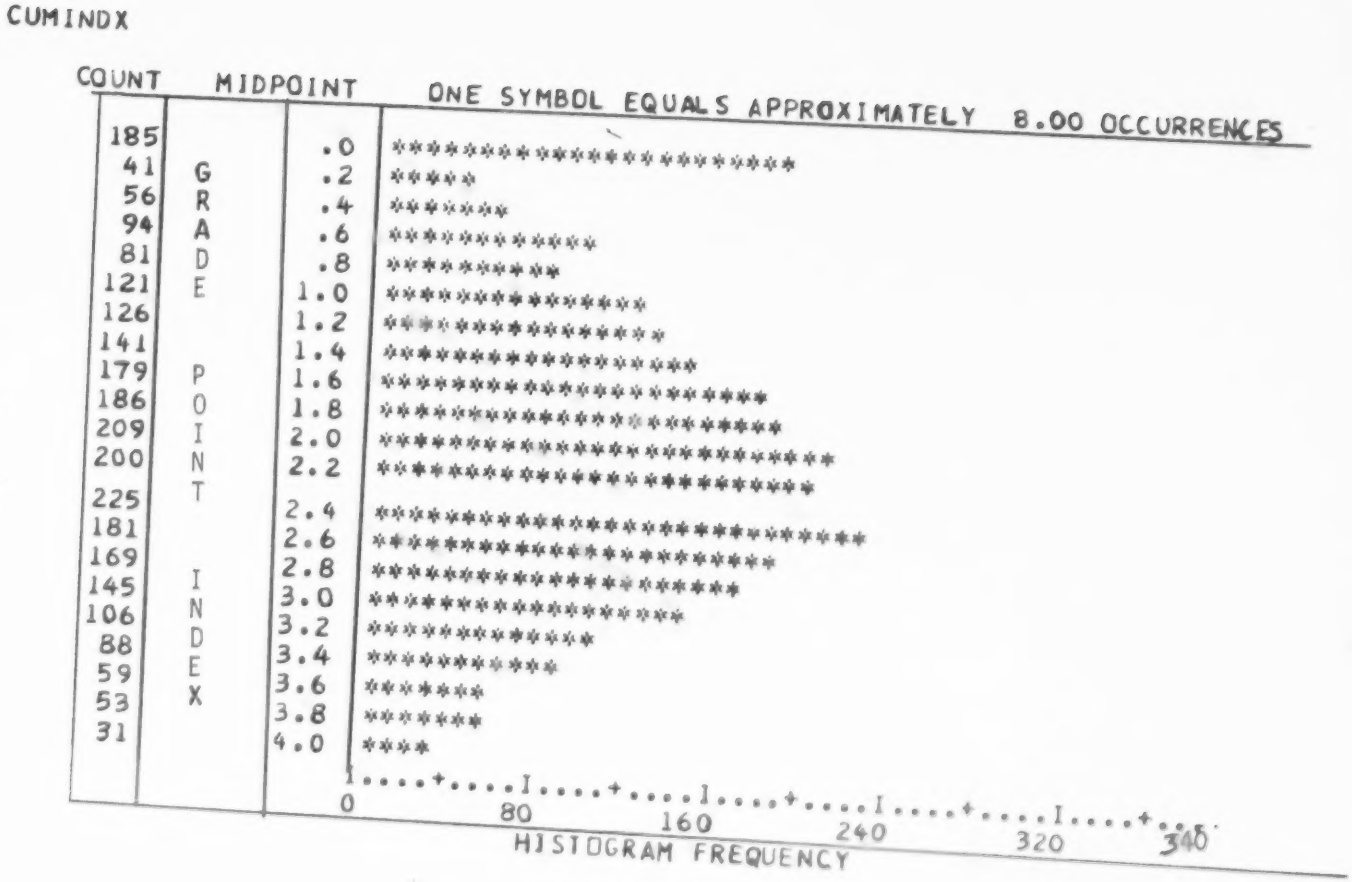


Figure 20: Grade Point Index (GPI) for Courses Satisfactorily Completed Toward a Degree After One Semester

GPITDI

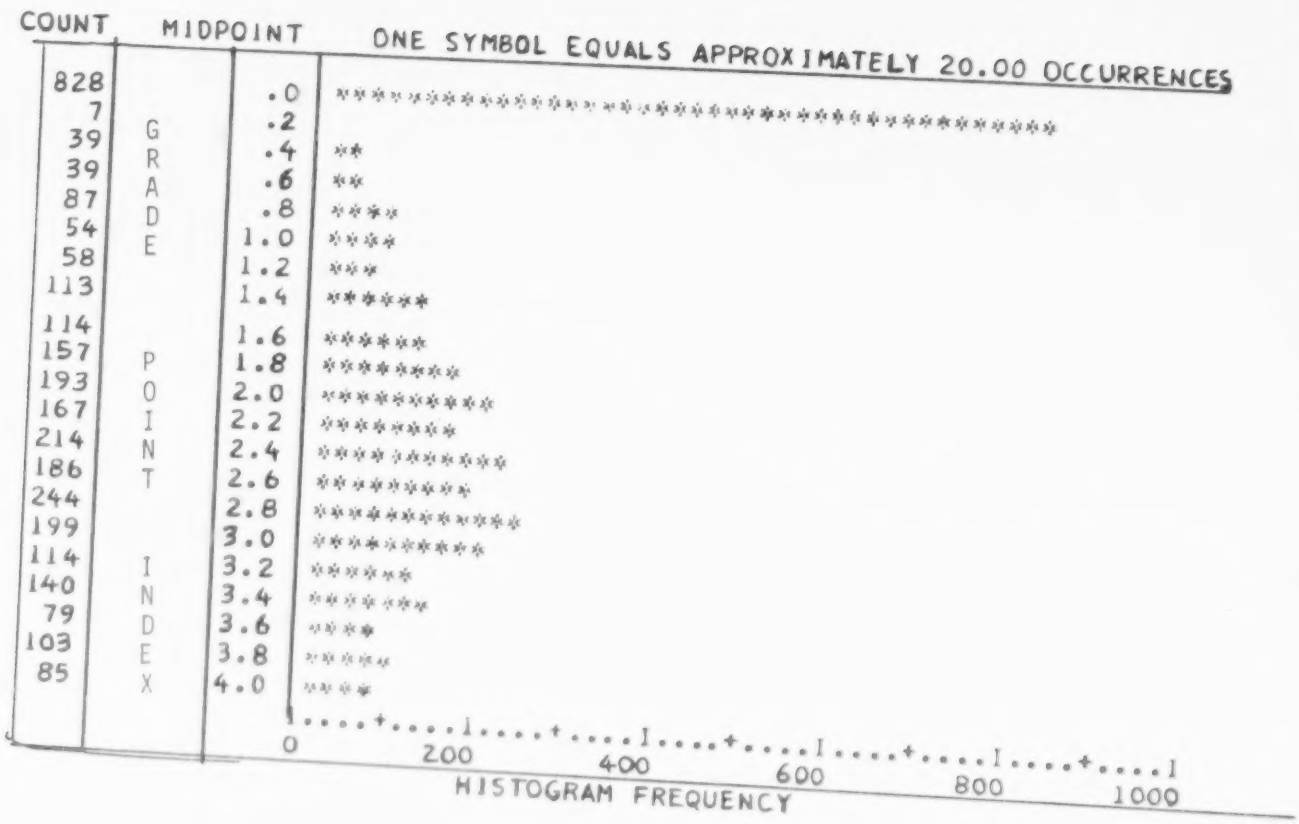
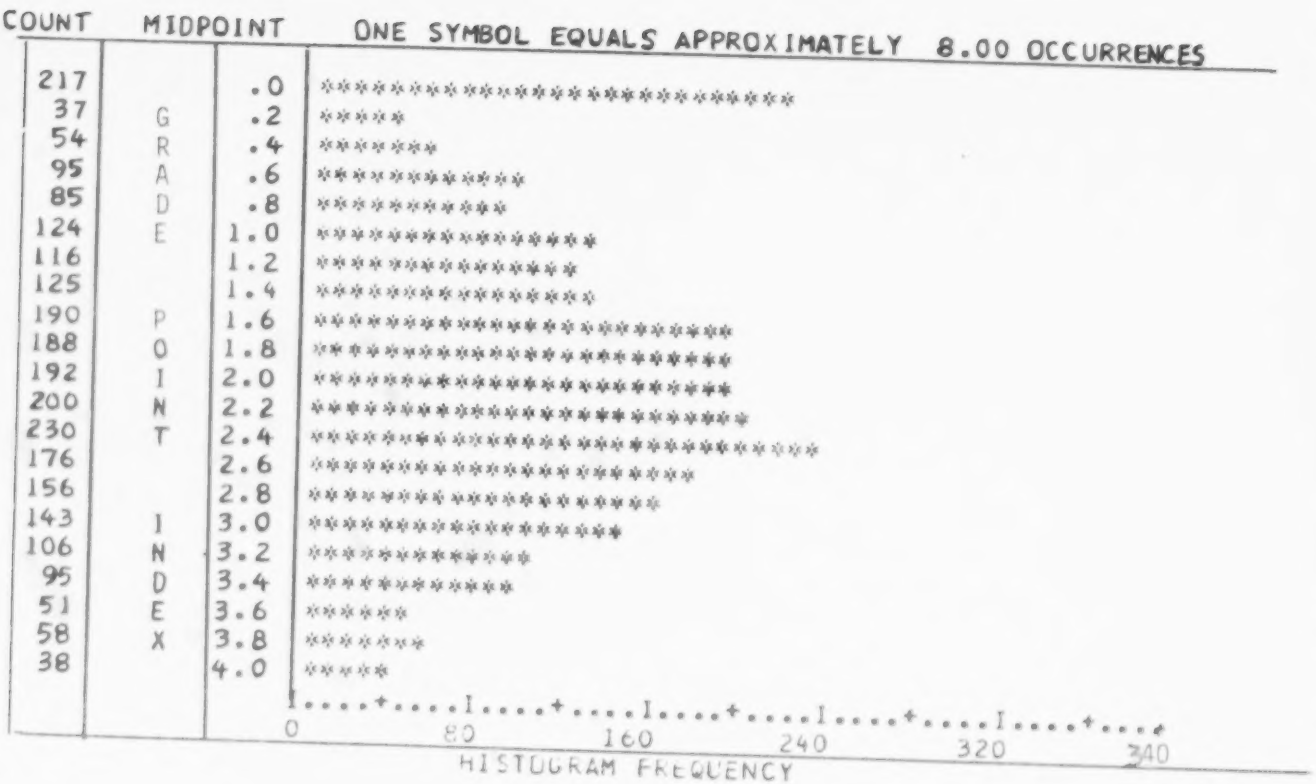


Figure 21: Grade Point Index (GPI) for Courses Satisfactorily Completed Toward a Degree After Two Semesters (Persisters Only)



ERIC CLEARINGHOUSE
FOR JUNIOR COLLEGES
MAY 9 1986